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Kazmierczak

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(54) **HEADWEAR WITH ENHANCED VENTILATION AND/OR WATER/PERSPIRATION HANDLING FEATURES**

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This patent is subject to a terminal disclaimer.

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Related U.S. Application Data

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(51) **Int. Cl.**
A42B 1/18 (2006.01)
A42B 1/00 (2006.01)

(52) **U.S. Cl.**
CPC ***A42B 1/008*** (2013.01); ***A42B 1/18*** (2013.01)

(58) **Field of Classification Search**
CPC A42C 5/04; A42B 1/02; A42B 1/205; A42B 1/062; A42B 1/066; A42B 3/28
See application file for complete search history.

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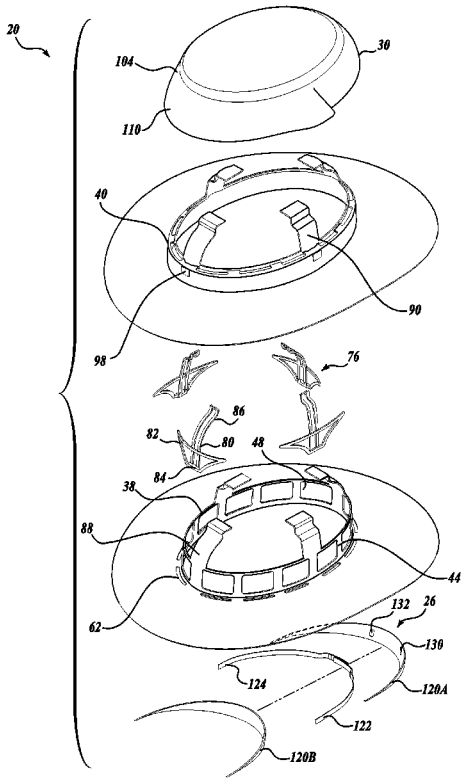
(57) **ABSTRACT**

Head coverings, such as hats, visors, bandanas, etc., are provided, each of which include a perspiration removal system. In some examples, the head covering may additionally or alternatively include one or more ventilation systems aimed to provide a cooling feature thereto.

20 Claims, 24 Drawing Sheets



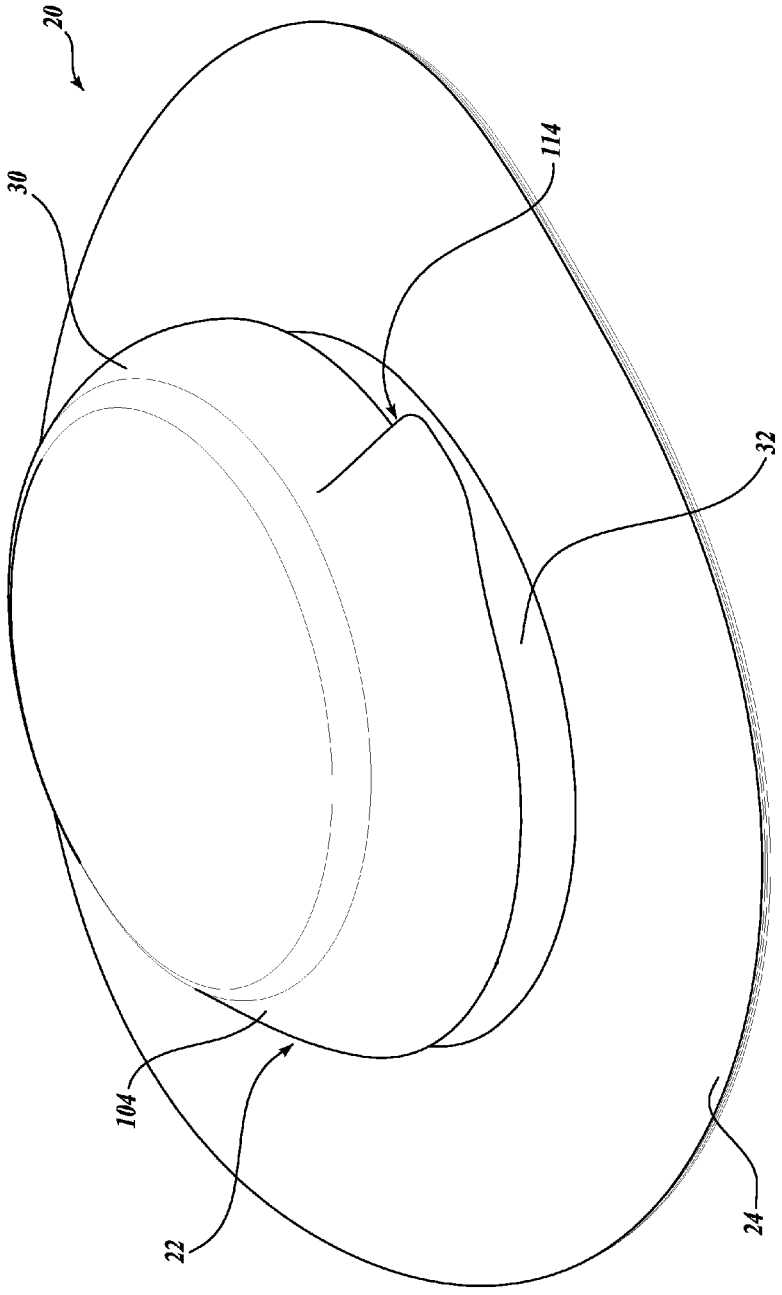


FIG. 1

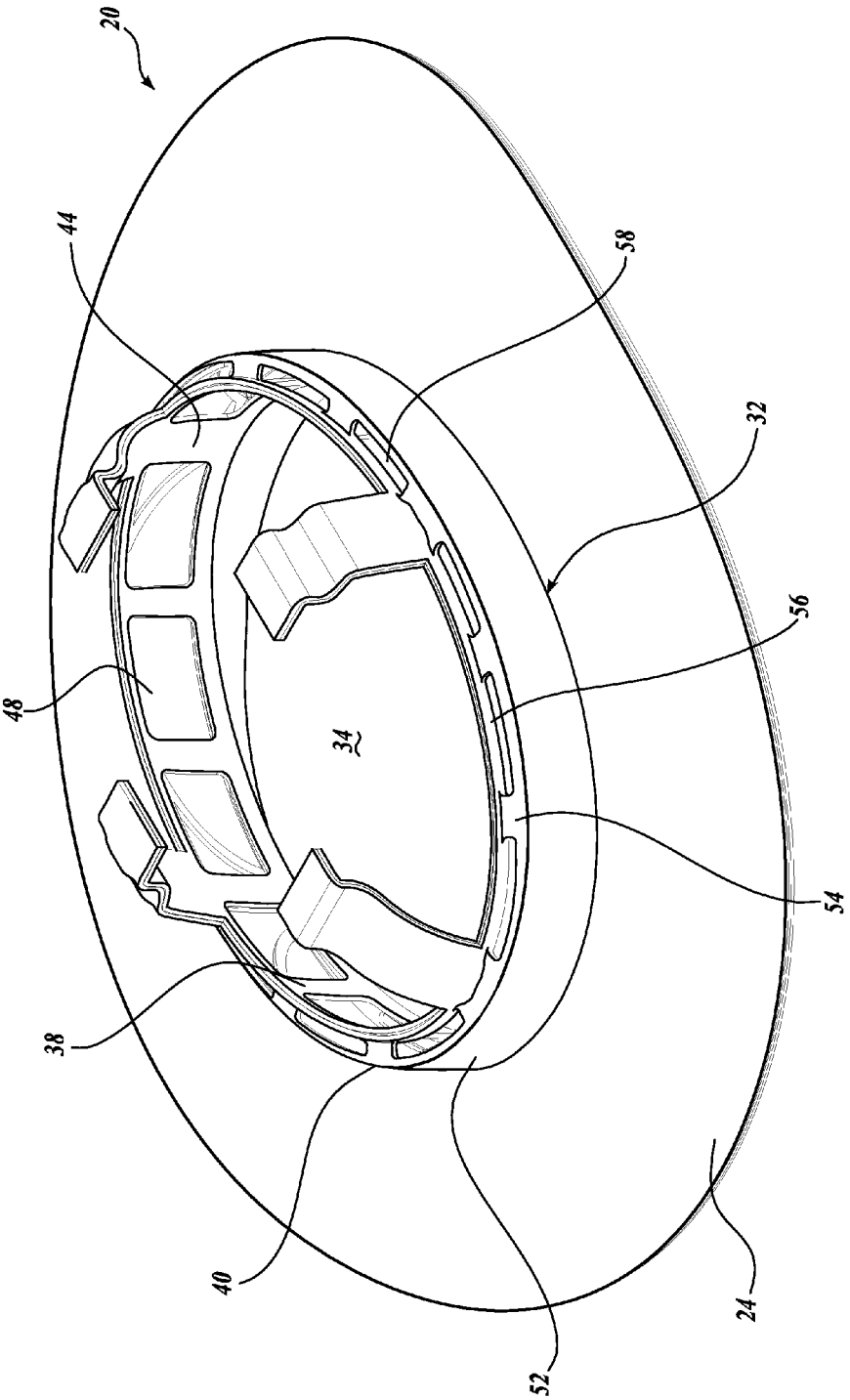
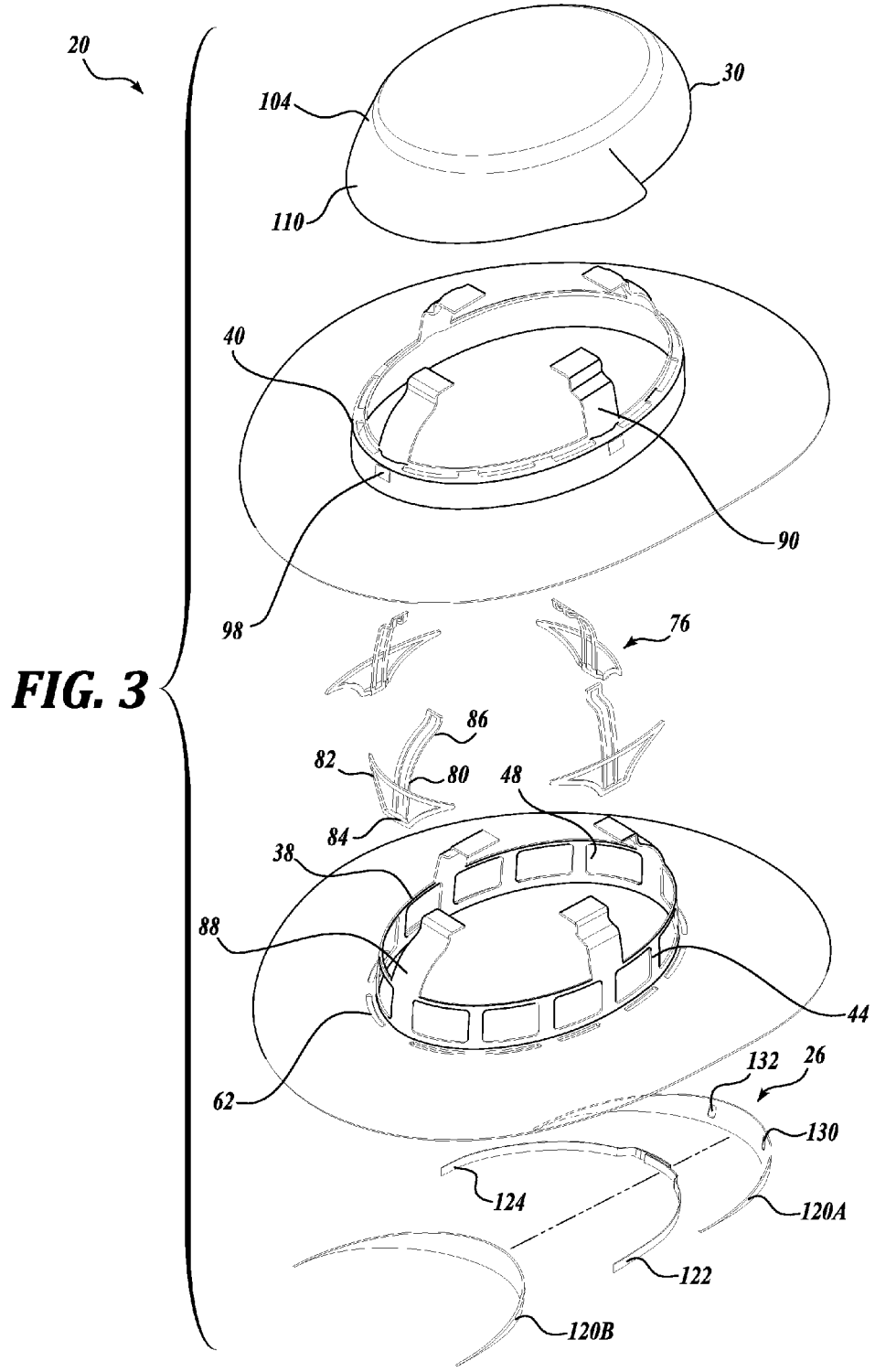


FIG. 2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120B

FIG. 3

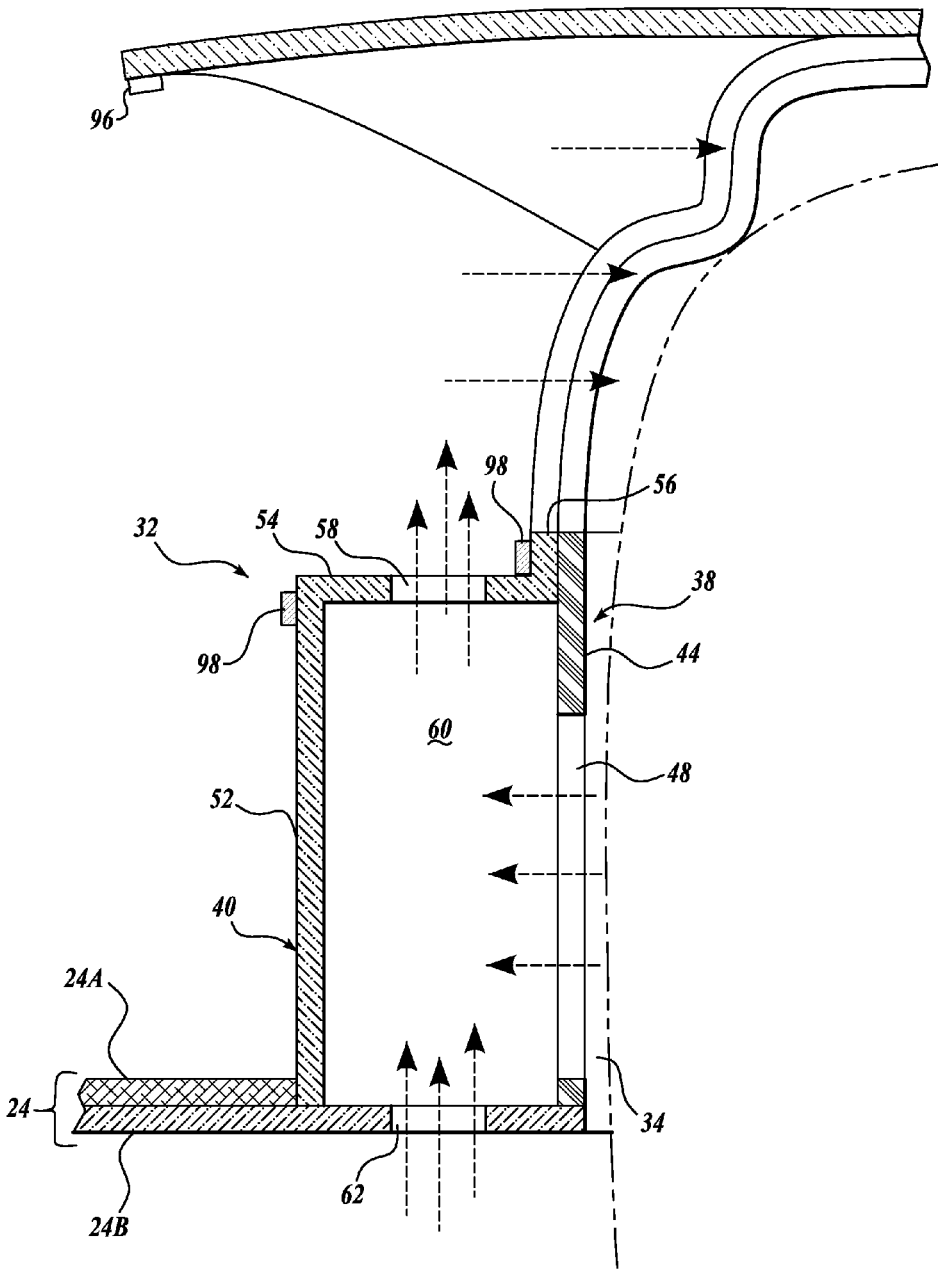


FIG. 4A

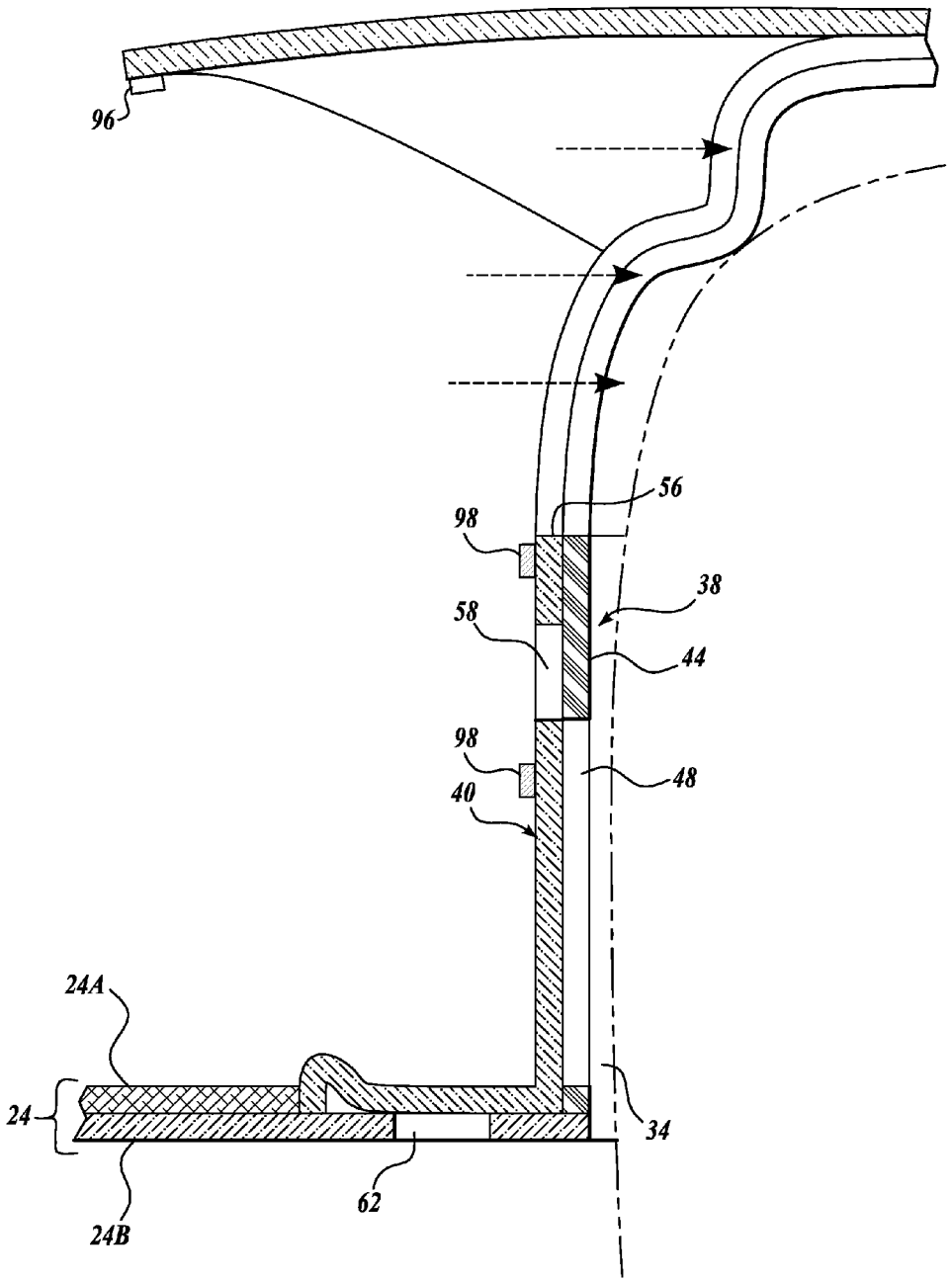


FIG. 4B

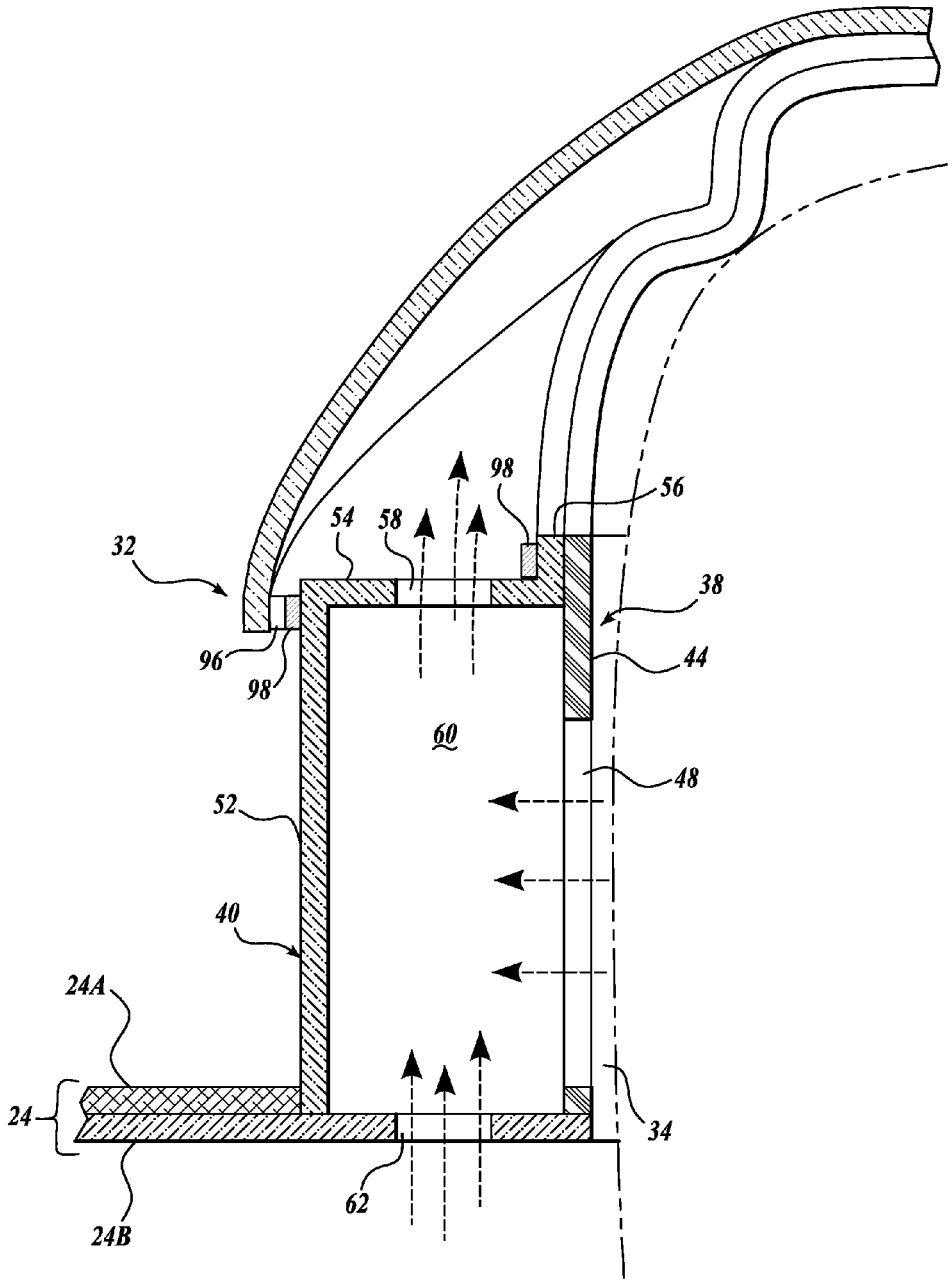


FIG. 4C

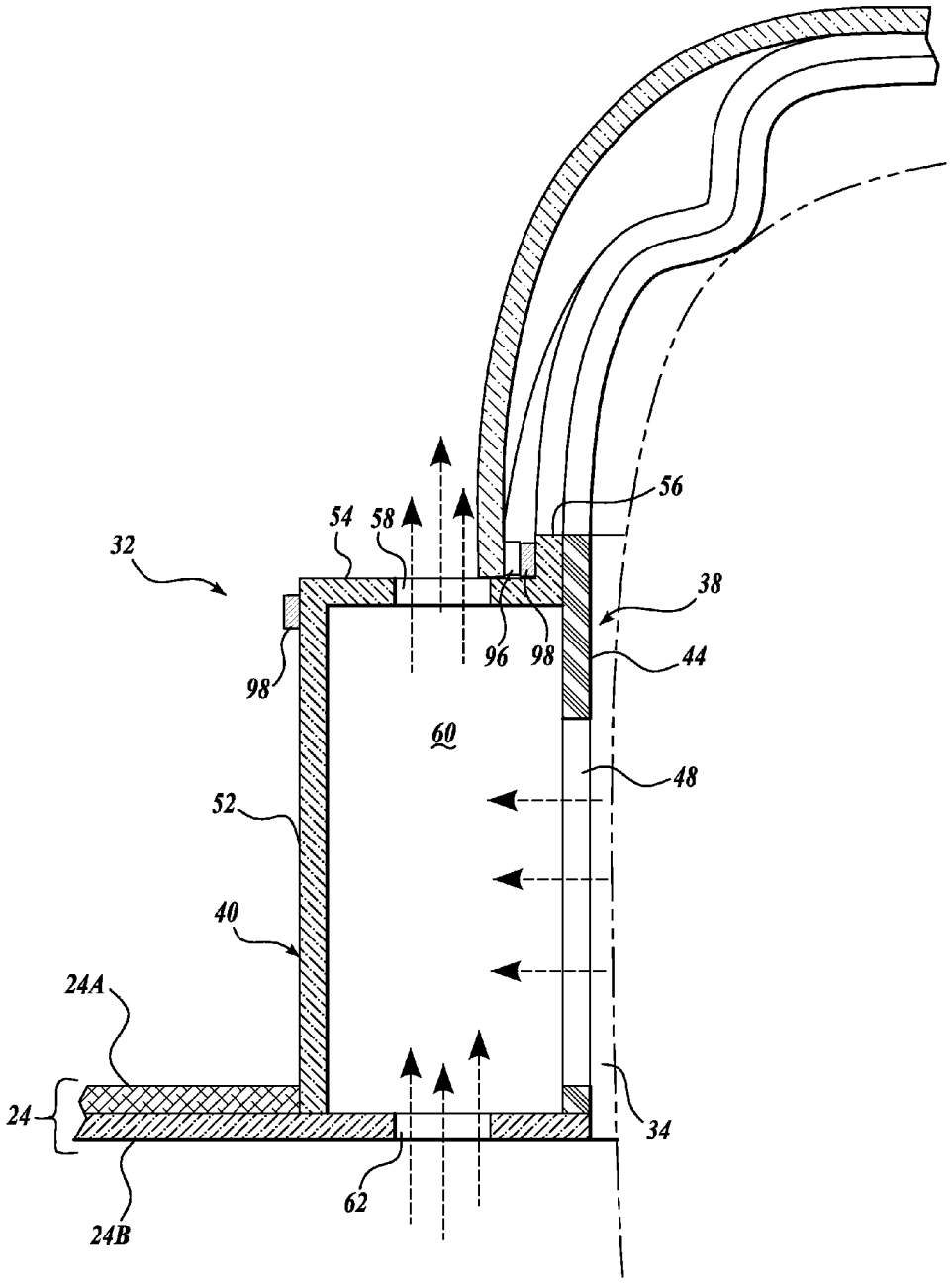


FIG. 4D

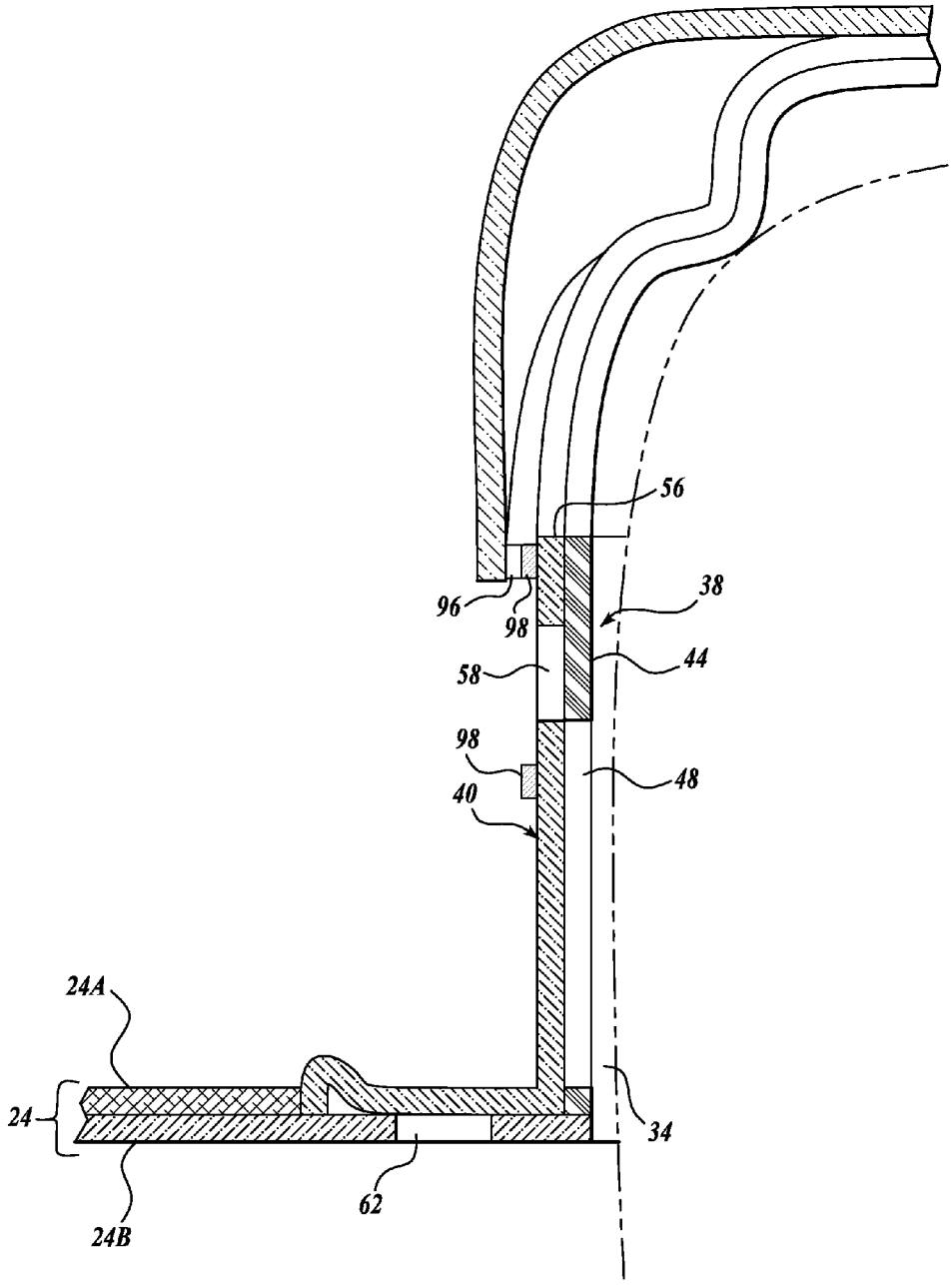


FIG. 4E

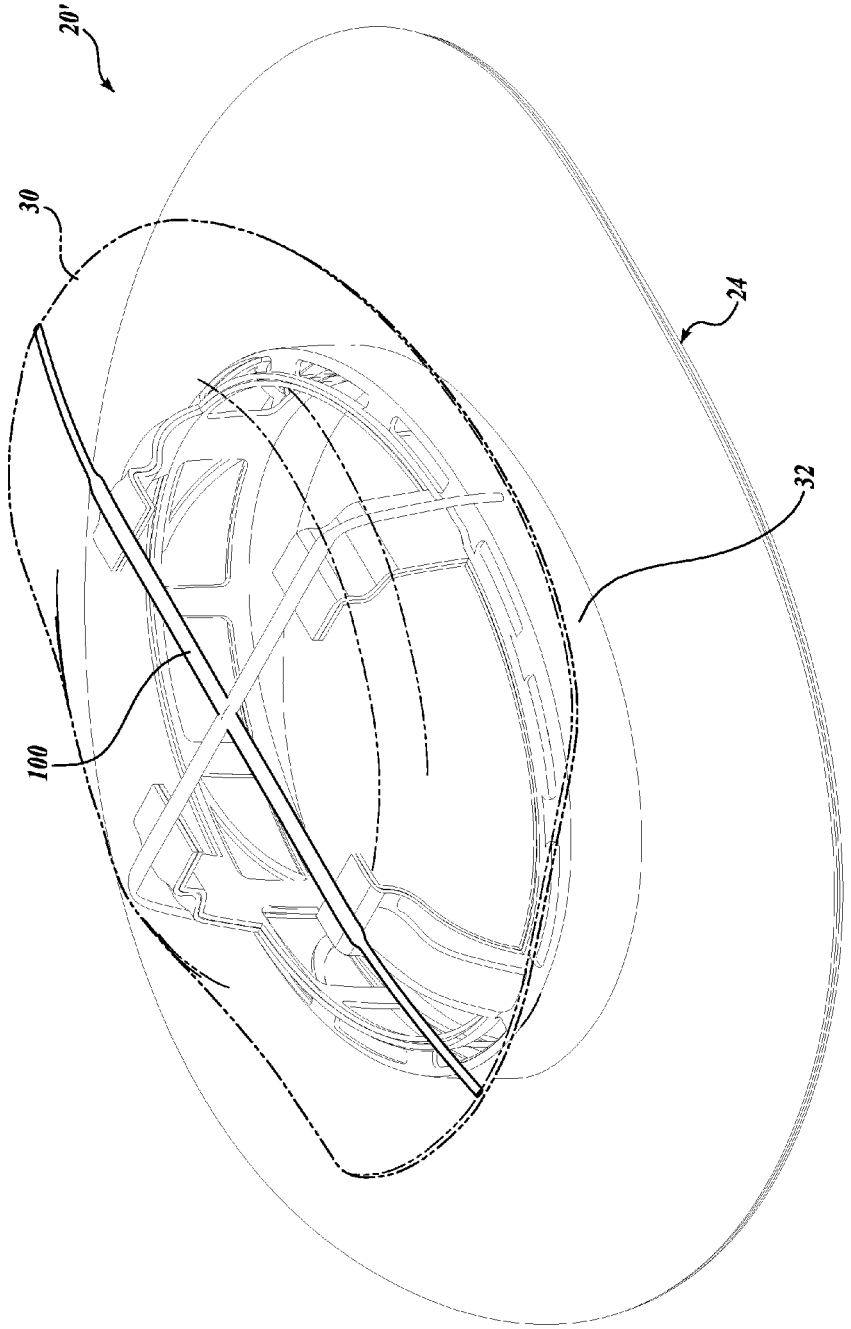


FIG. 5

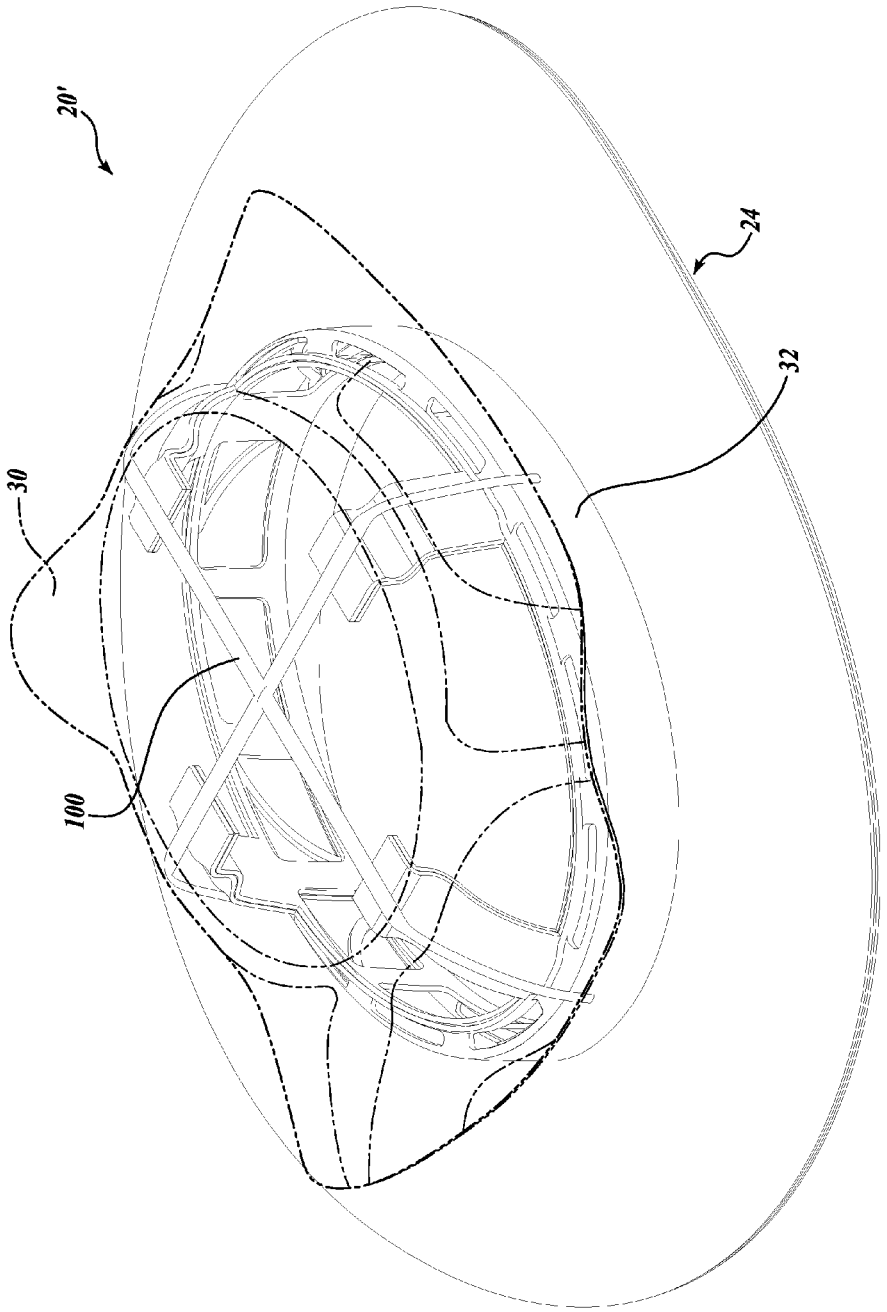


FIG. 6

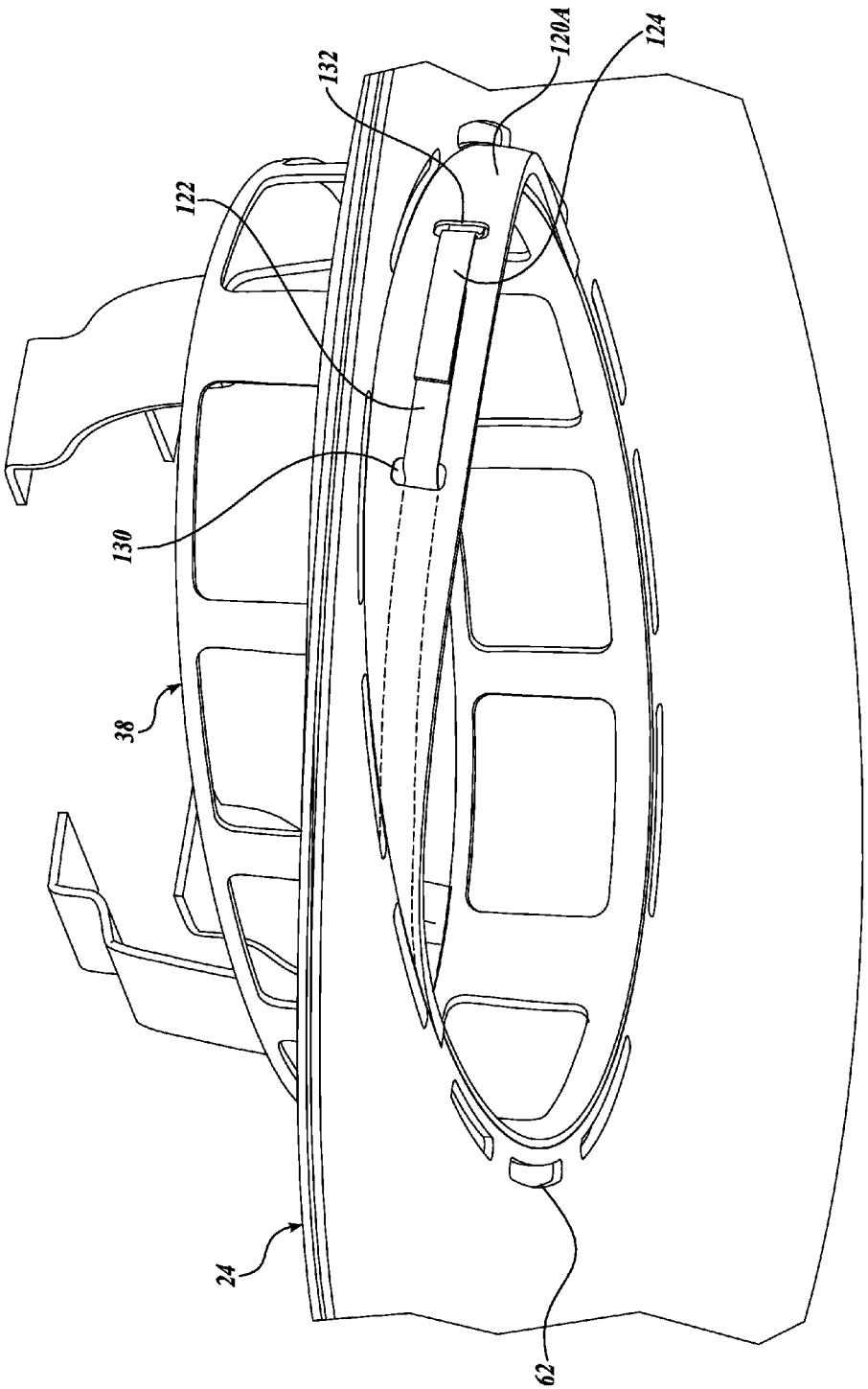


FIG. 7

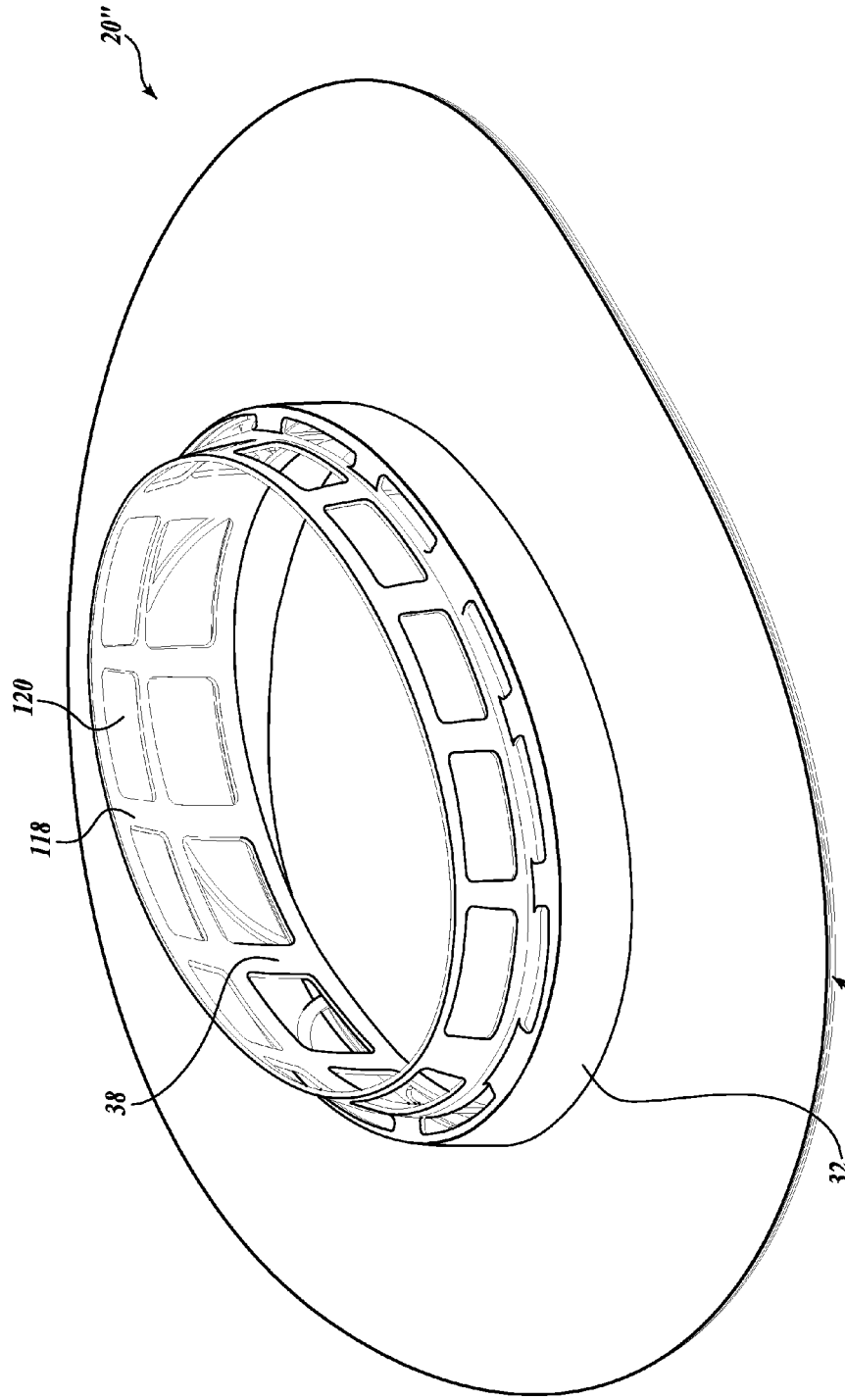


FIG. 8

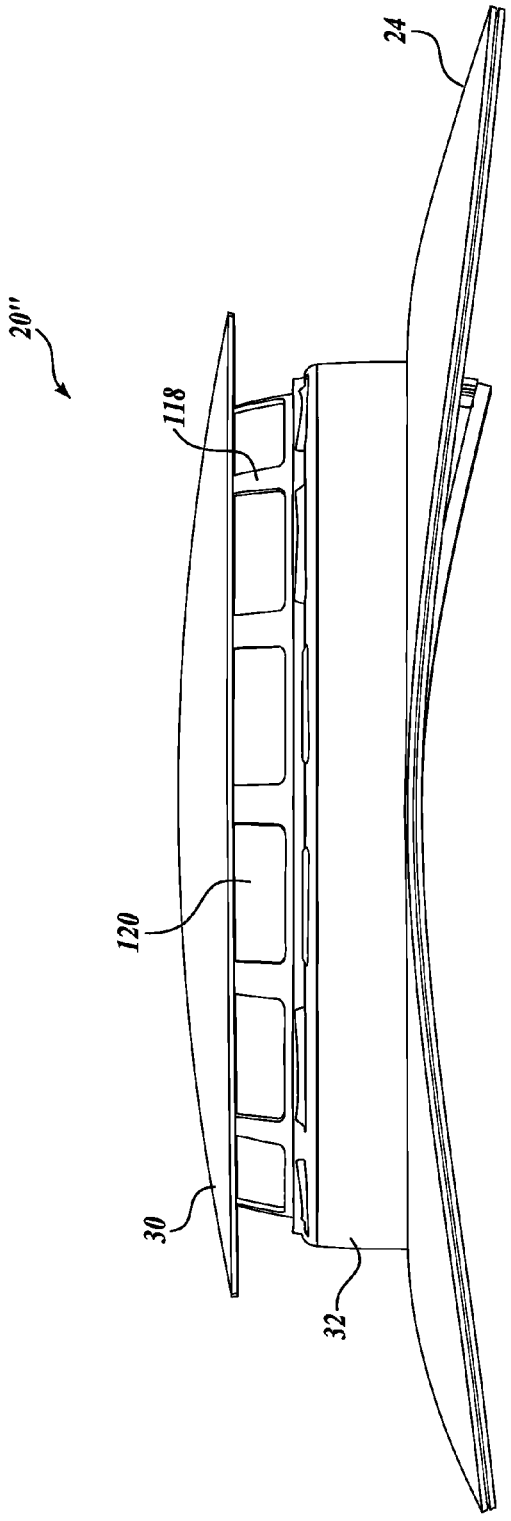


FIG. 9

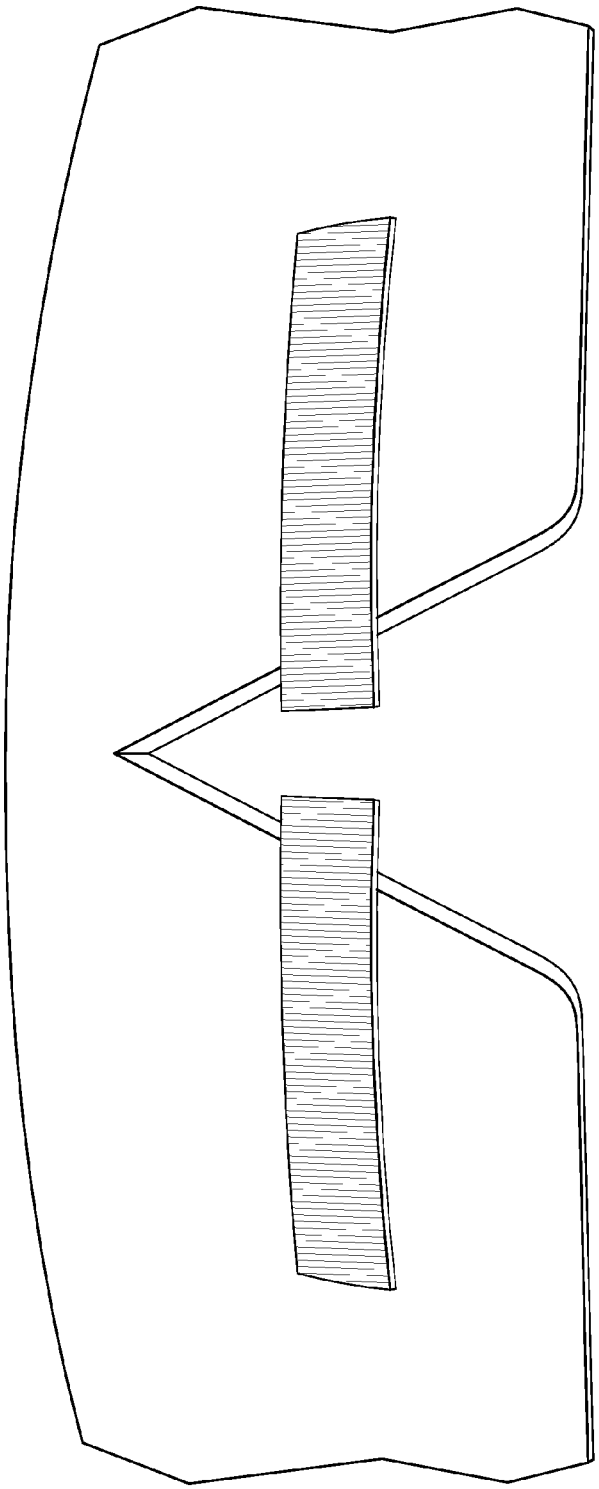


FIG. 10A

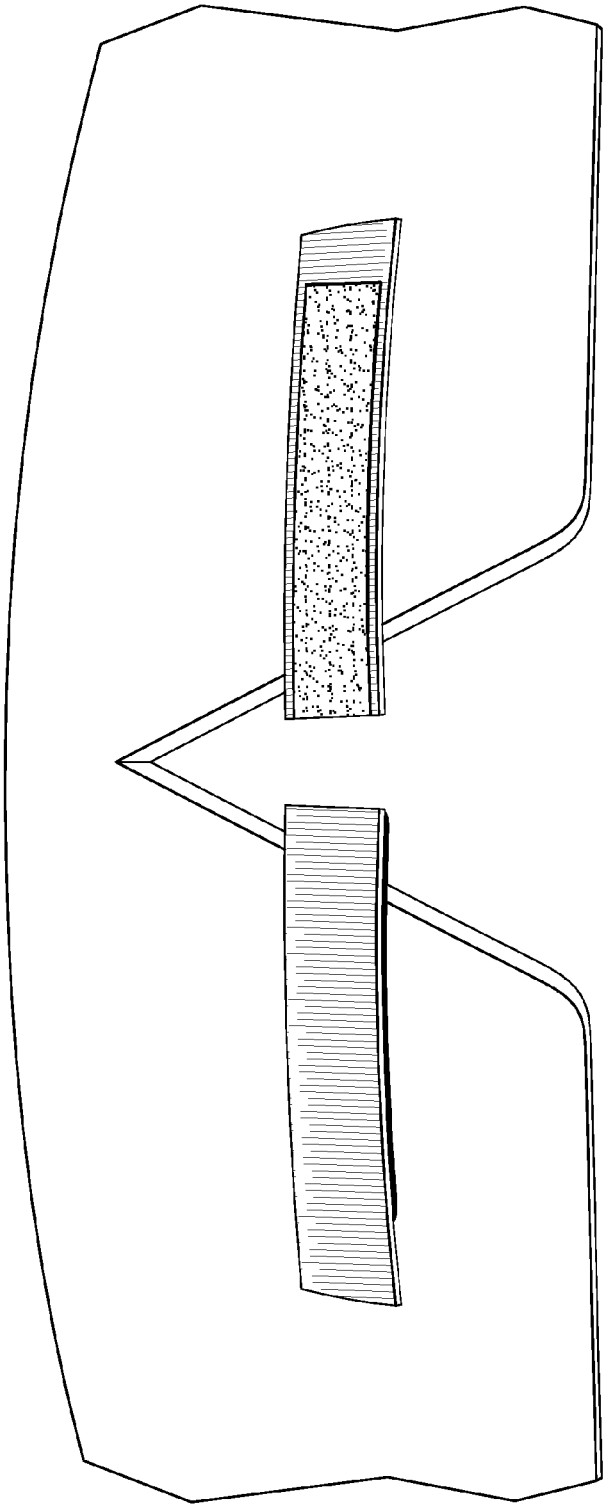


FIG. 10B

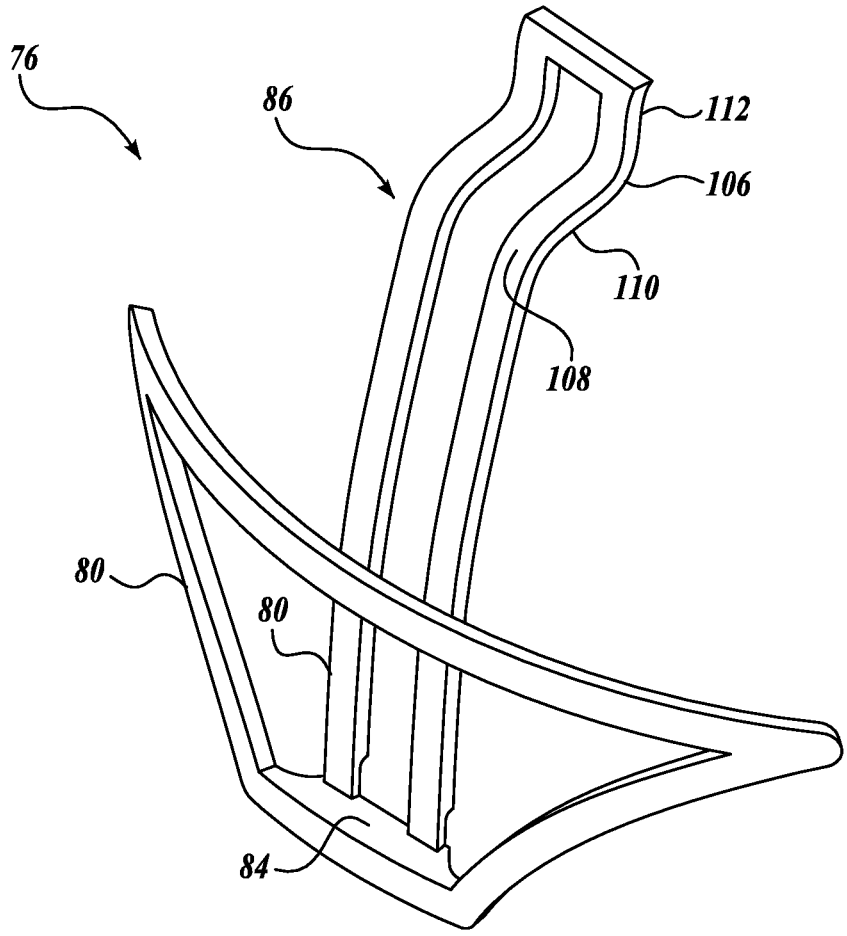
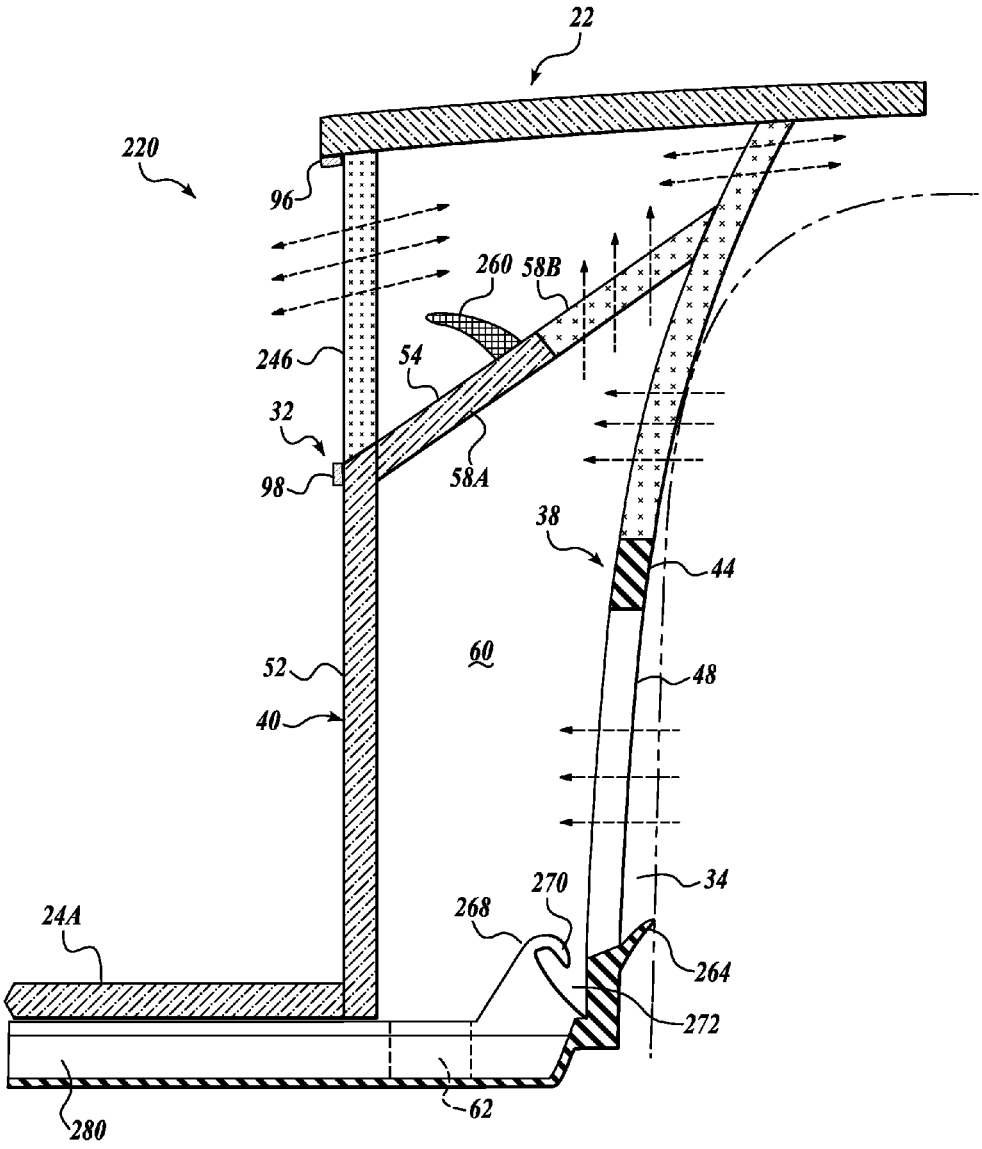


FIG. 11


22
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58B
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FIG. 12

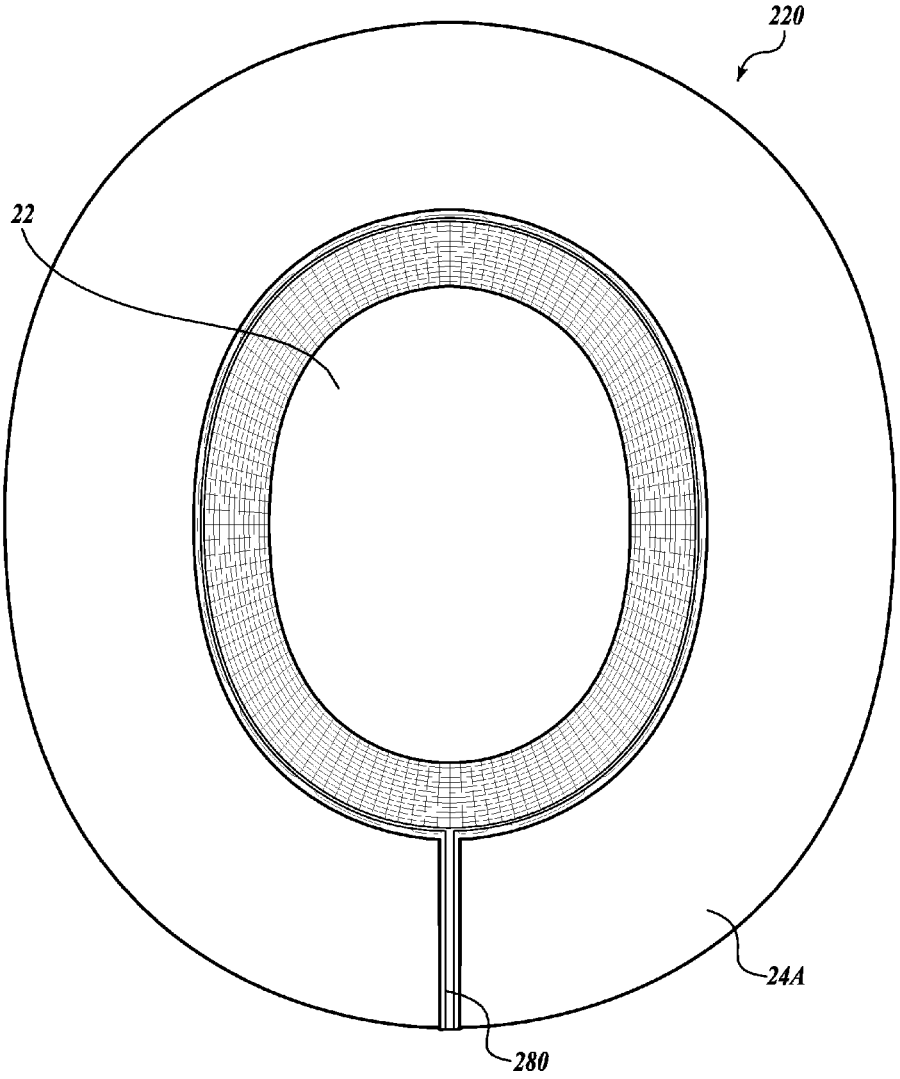


FIG. 13

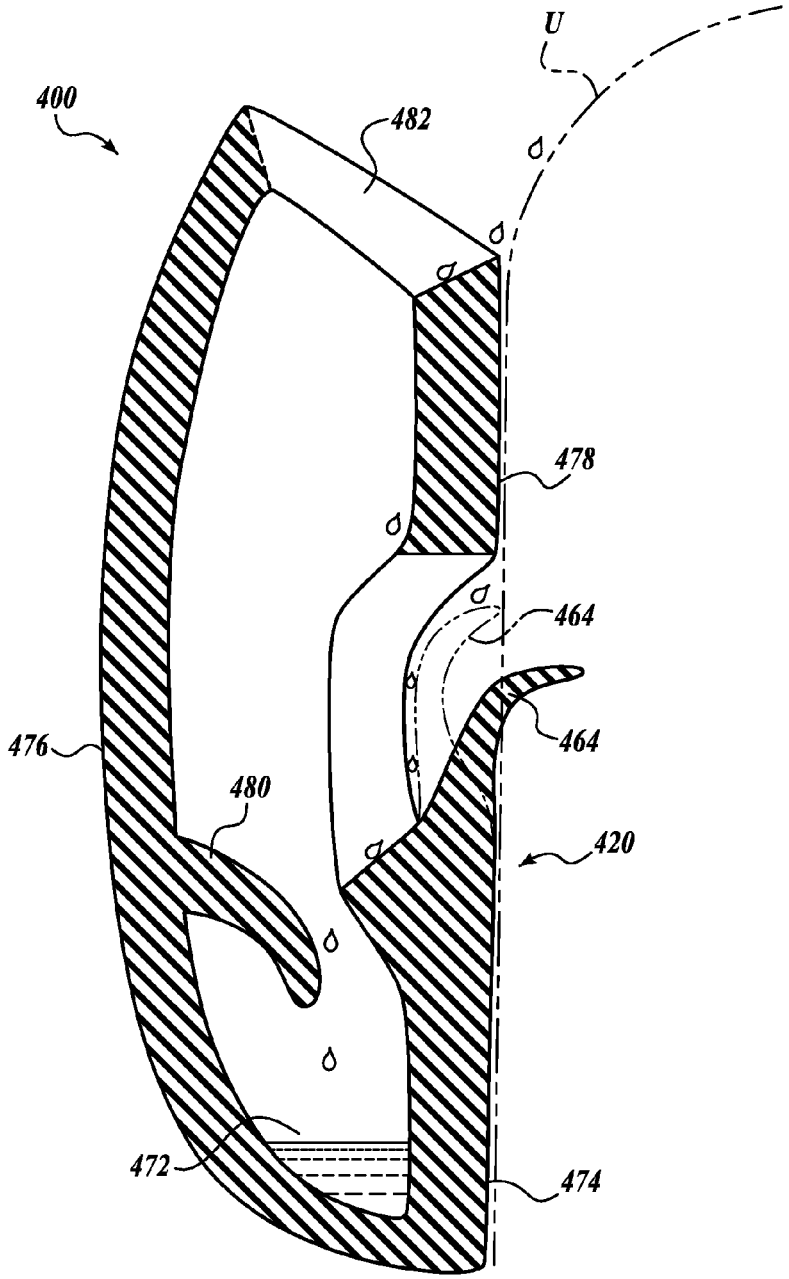


FIG. 14

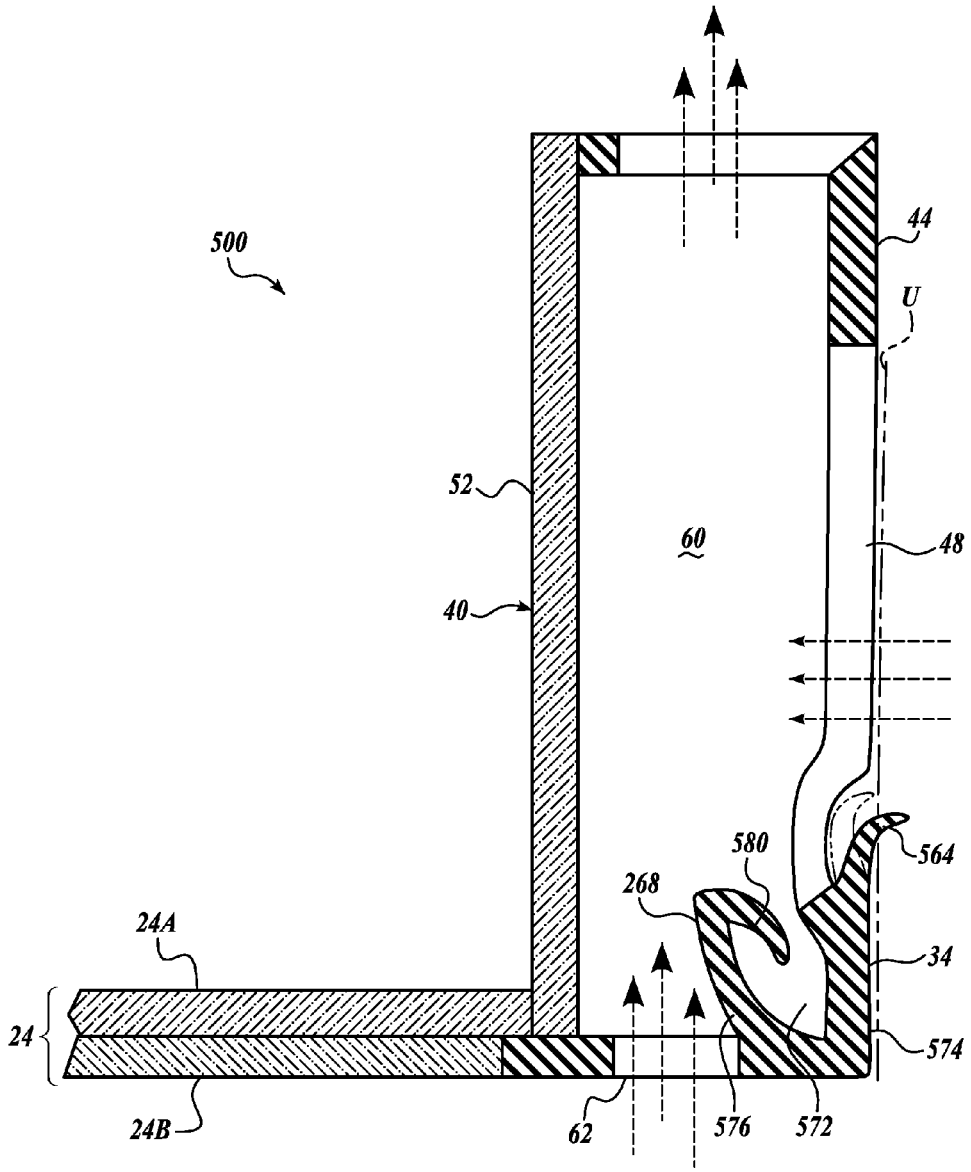
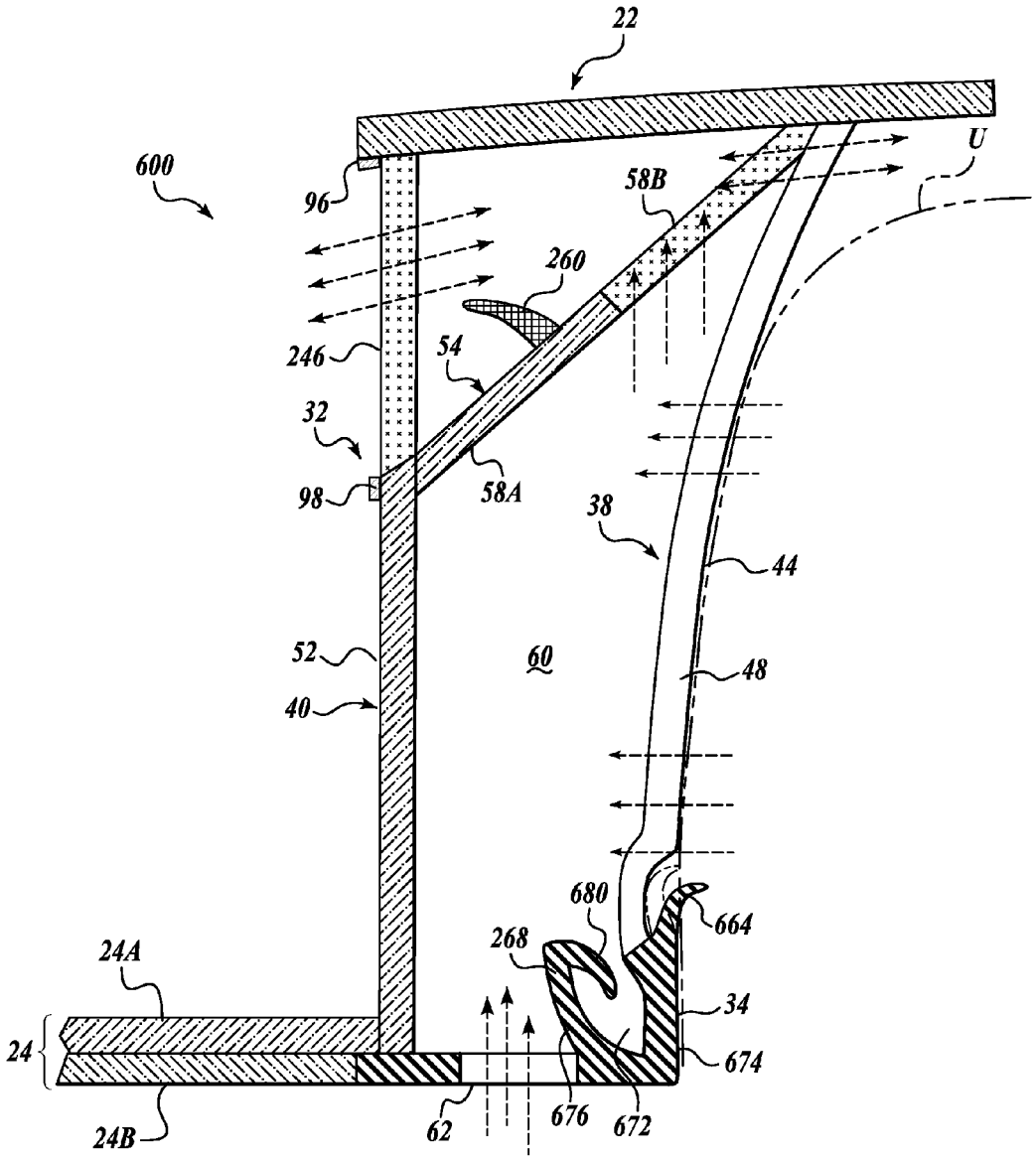


FIG. 15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24A
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24B
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676
672

FIG. 16

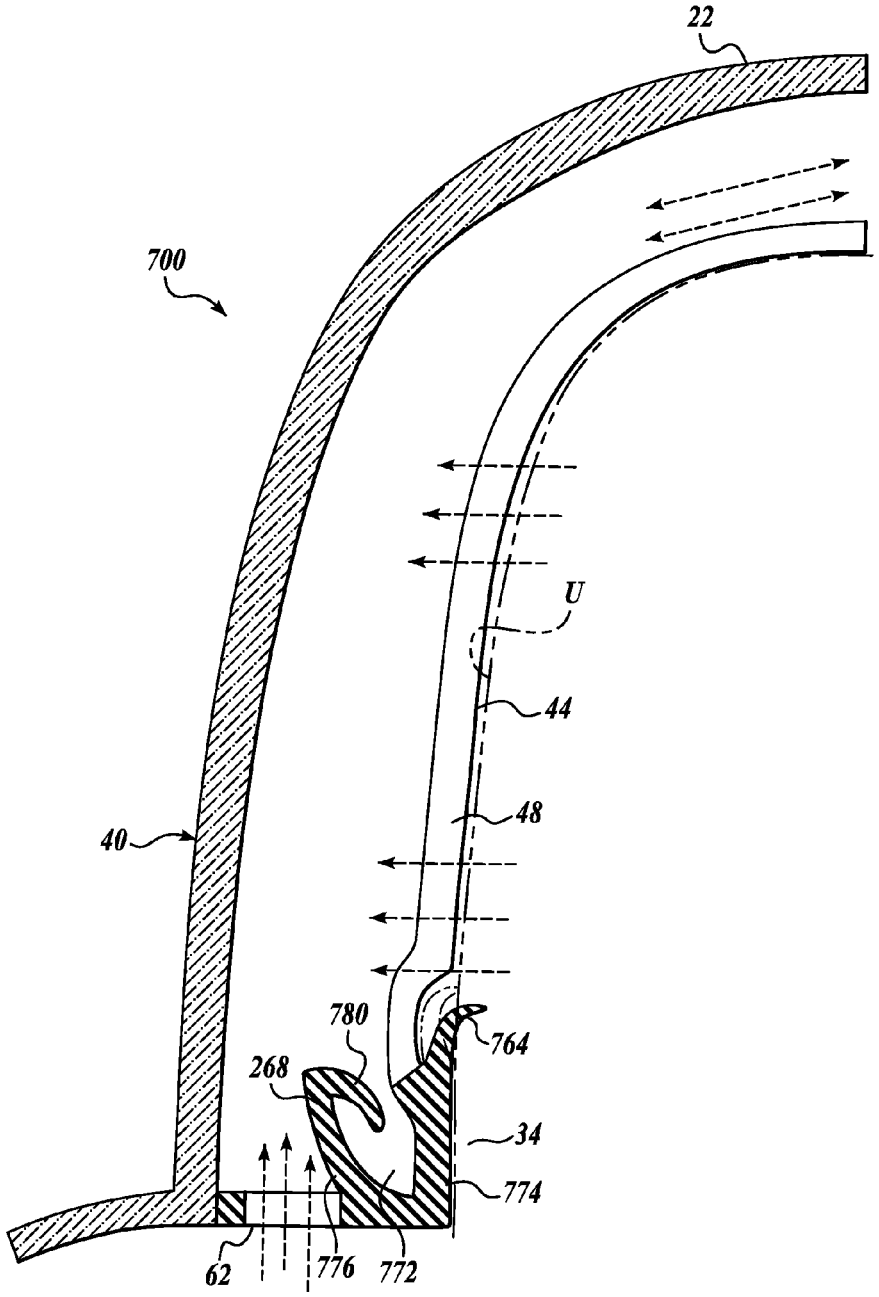

FIG. 17

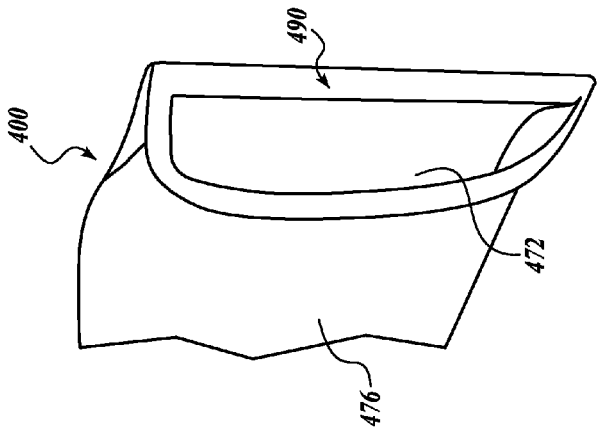

FIG. 19

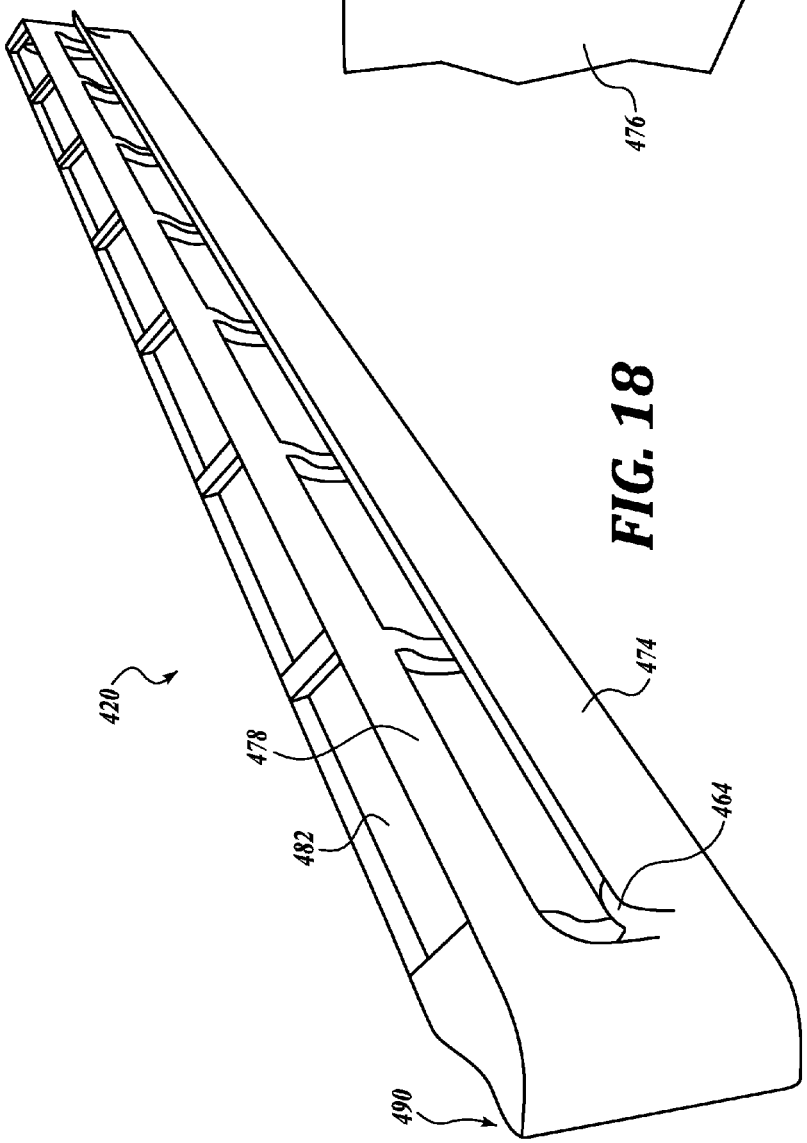

FIG. 18

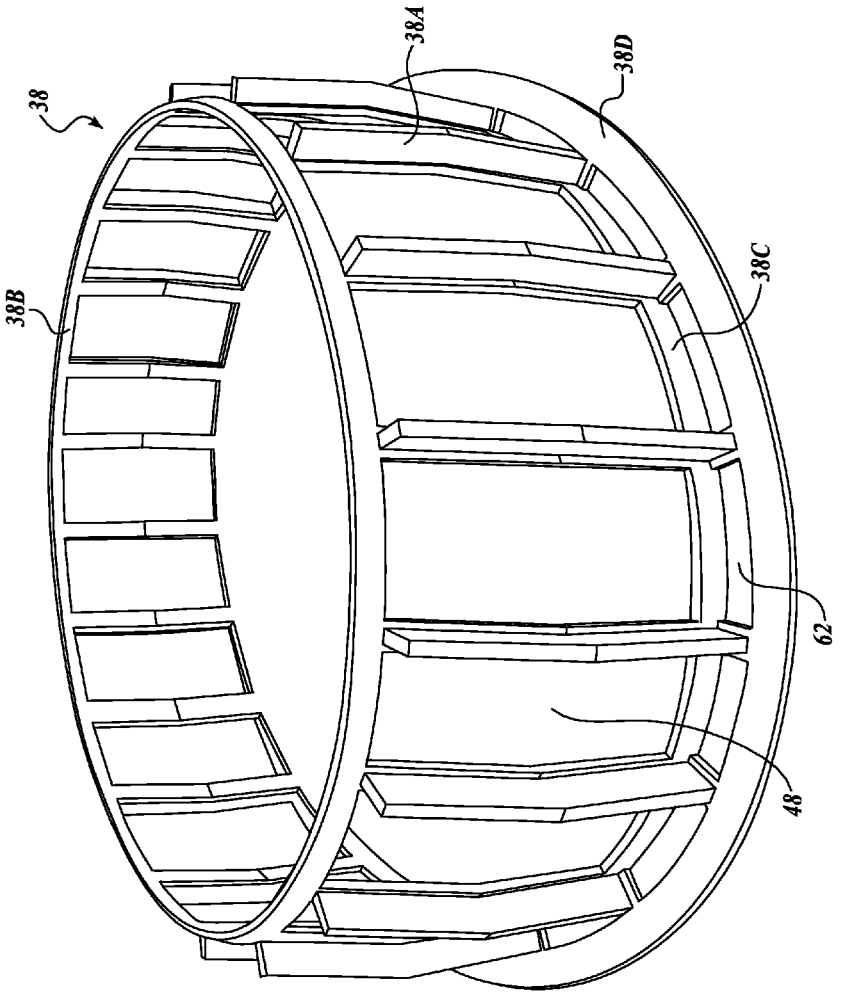

FIG. 20

HEADWEAR WITH ENHANCED VENTILATION AND/OR WATER/PERSPIRATION HANDLING FEATURES

CROSS-REFERENCE TO RELATED APPLICATION

This application claims the benefit of U.S. Provisional Application No. 61/798,639, filed Mar. 15, 2013, the subject matter of which is hereby incorporated in its entirety.

BACKGROUND

As generally known, hats provide many benefits to the wearer, including shade to protect the user's head from the direct rays of the sun. Such shade reduces glare to the wearer's eyes, protects certain areas of the wearer's body from sunburn, may reduce the effects of heat to the wearer, etc. In other instances, the hat may protect the wearer from rain, sleet, snow, and other precipitation, and/or may provide protection from the cold, wind, etc.

While the sun's rays to some degree are blocked from the wearer's head, radiant energy is absorbed by the hat and is generally conducted through the crown of the hat into the interior cavity of the hat, thereby heating the wearer's head. In conjunction with such heat being absorbed, heat generated by the wearer's body radiates outwardly from the head, which can be somewhat trapped by the crown portion of the hat and retained in close proximity to the wearer's head. Therefore, the wearer is sometimes faced with the dichotomy of wearing a hat to protect from certain conditions, such as rain, wind, glare, sunburns, etc., only to result in an increased body temperatures to the wearer due to the heat absorbed and retained by the crown.

Several conventional hats have been provided with ventilating holes through the top and/or side walls of the crown for accessing the interior cavity, or the crown was constructed out of mesh to reduce this buildup of heat. Unfortunately, such efforts have had limited success in eliminating the problem of heat buildup within the interior of hats, while creating further problems such as diminishing the ability to protect the wearer from other conditions, such as rain, wind, etc.

SUMMARY

This summary is provided to introduce a selection of concepts in a simplified form that are further described below in the Detailed Description. This summary is not intended to identify key features of the claimed subject matter, nor is it intended to be used as an aid in determining the scope of the claimed subject matter.

In accordance with aspects of the present disclosure, a head covering is provided. The head covering includes a crown having an open ended cavity configured to receive a head of a user, wherein the crown includes an inner crown wall disposed adjacent to a head of a user when the head covering is worn, an outer crown wall spaced a distance outwardly from the inner crown wall, and a top section. The outer crown wall in one embodiment includes an upwardly extending first section and a second section that extends from an upper portion of the first section to one of the top section and the inner crown wall in an upwardly sloping manner. The head covering also includes a ventilation system associated with the crown and configured to provide ventilation to a user of the head covering. The ventilation system in one embodiment includes (1) at least one chamber disposed between the inner crown wall and the outer crown wall, (2) at least one first chamber opening disposed in the inner crown wall and connecting the at least one first chamber in fluid communication with the open ended cavity, (3) at least one second chamber opening disposed in the second section of the outer crown wall and connecting the at least one first chamber in fluid communication with an exterior of the head covering, and (4) at least one third chamber opening disposed below the at least one chamber and connected in fluid communication with the at least one first chamber.

In accordance with another aspect of the present disclosure, a head covering is provided. The head covering includes an inner wall section and an outer wall section disposed radially outwardly of the inner wall section and coupled thereto in order to form a channel. The head covering also includes means for sealing against the head of the user. The sealing means in some embodiments is configured for directing liquid into the channel.

In accordance with another aspect of the present disclosure, a head covering is provided. The head covering includes a hat body having a brim and a crown, means for ventilating the hat, and means for collecting moisture from a user when the head covering is being worn.

DESCRIPTION OF THE DRAWINGS

The foregoing aspects and many of the attendant advantages of the claimed subject matter will become more readily appreciated as the same become better understood by reference to the following detailed description, when taken in conjunction with the accompanying drawings, wherein:

FIG. **1** is a perspective view of one example of a head covering, such as a hat, constructed in accordance with aspects of the present disclosure;

FIG. **2** is a partially perspective view of the hat of FIG. **1** with the upper crown portion removed;

FIG. **3** is an exploded perspective view of the hat of FIG. **1**;

FIG. **4**A is a partial cross-sectional schematic view of the hat of FIG. **1**, wherein the first ventilation system in the "open" position;

FIG. **4**B is a partial cross-sectional schematic view of the hat of FIG. **1**, wherein the first ventilation system in the "closed" position;

FIG. **4**C a partial cross-sectional schematic view of the hat of FIG. **1** in a first closed position;

FIG. **4**D a partial cross-sectional schematic view of the hat of FIG. **1** in a second closed position;

FIG. **4**E a partial cross-sectional schematic view of the hat of FIG. **1** in a third closed position;

FIG. **5** is a perspective view of another embodiment of a hat with the upper crown portion in phantom to illustrate features thereof, wherein the upper crown portion is selectively attached to the lower crown portion at the sides of the hat;

FIG. **6** is a perspective view of the hat of FIG. **5**, wherein the upper crown portion is selectively attached to the lower crown portion at the front, back, and sides of the hat;

FIG. **7** is a bottom rear perspective view of the hat of FIG. **2**, depicting one embodiment of a strap formed in accordance with aspects of the present disclosure;

FIG. **8** is a perspective view of yet another embodiment of a hat constructed in accordance with aspects of the present disclosure, wherein the upper crown portion has been removed;

FIG. **9** is a side view of the hat depicted in FIG. **8**, with the upper crown portion selectively attached and disposed in a ventilation position;

FIGS. **10**A and **10**B are alternative embodiments of a strap formed in accordance with aspects of the present disclosure;

FIG. **11** is perspective view of one embodiment of a support/spacer formed in accordance with aspects of the present disclosure.

FIG. **12** is a partial cross-sectional schematic view of another embodiment of a hat, wherein the first ventilation system in the "open" position;

FIG. **13** is a top view of the hat of FIG. **12**.

FIG. **14** is one example of a head covering, such as a bandana, depicting a cross sectional view of one embodiment of a perspiration removal system in accordance with aspects of the present disclosure;

FIG. **15** is one example of a head covering, such as a visor, depicting a cross sectional view of one embodiment of a perspiration removal system in accordance with aspects of the present disclosure;

FIG. **16** is one example of a head covering, such as a hat, depicting a cross sectional view of one embodiment of a perspiration removal system in accordance with aspects of the present disclosure;

FIG. **17** is one example of a head covering, such as construction or "hard" hat, depicting a cross sectional view of one embodiment of a perspiration removal system in accordance with aspects of the present disclosure;

FIG. **18** is a perspective view of one example of the perspiration removal system of FIG. **14**;

FIG. **19** is a partial end view of the perspiration removal system of FIG. **18**; and

FIG. **20** is a perspective view of another embodiment of an inner band suitable for use in the head coverings of FIGS. **1** and **12**, among others.

DETAILED DESCRIPTION

Example embodiments of the present disclosure will now be described with reference to the accompanying drawings where like numerals correspond to like elements. Representative examples of the present disclosure are directed to head coverings, including but not limited to hats, visors, bandanas, etc., some suitable for use in outdoor applications. In particular, some embodiments of the present disclosure are directed to head coverings that provide protection from the elements, e.g., rain, wind, sun, while used in outdoor activities, including recreational activities (e.g., running, climbing, hiking, etc.), laborious activities (landscaping, construction, painting, etc.). Some embodiments of the present disclosure are also directed to head coverings having enhanced ventilation features so that the hat may regulate heat that is either absorbed by the hat or generated by the head of the user and retained thereby, while continuing to provide protection to the user from the elements. Some embodiments of the present disclosure are further directed to head coverings having perspiration removal features.

The following discussion proceeds with reference to examples of head coverings with enhanced ventilation features and/or perspiration removal features. While these examples provided herein have been described in various details, it will be apparent to one skilled in the art that this is done for illustrative purposes only and should not be construed as limiting the scope of the claimed subject matter. Further, it will be appreciated that embodiments of the present disclosure may employ any combination of features described herein.

FIGS. **1-3** illustrate one representative embodiment of a head covering, generally designated **20**, formed in accordance with aspects of the present disclosure. As shown in FIGS. **1-3**, the head covering **20** is in the form of a hat (hereinafter "hat **20**"), which includes a crown **22** and a brim **24**. As will be described in more detail below, the hat **20** may include one or more ventilation features or systems (See FIGS. **4** and **9**) that provide suitable air flow into and out of the hat **20**, thereby effecting cooling to the user of the hat **20**. Additionally or alternatively, the hat **20** may include perspiration removal features (See FIGS. **12** and **16**.

Referring to FIGS. **1-3**, the crown **22** of the hat **20** is formed with an upper crown portion **30** which extends across the top of the user's head and downwardly along the sides, the front, and the back of the user's head to a lower crown portion **32** which encircles the user's head. Extending outwardly therefrom in all directions is the brim **24**, although other configurations where the brim extends outwardly along a portion or portions of the lower crown section **32** are possible. The brim **24** extends in a somewhat horizontal plane, although variations of this are within the scope of the claimed subject matter. In the embodiment shown in FIG. **3**, the brim may be formed by a top layer **24**A of suitable material and a bottom layer **24**B of suitable material.

In embodiments of the present disclosure, the components of the hat may be constructed from any suitable material(s) utilized in the hat making industry. These materials may include, for example, fabrics constructed of natural fibers (e.g., cotton, wool, etc.), synthetic fibers (e.g., nylon, polyester, etc.), coated fibers, impregnated fibers, etc., and combinations, blends, etc., thereof. Some of the fabrics may be occlusive while others may have a degree of translucency or transparency. Other fabrics that may be used include mesh or other permeable membranes. Some may provide water repellency, water resistance, or water proofing.

In one embodiment, the top layer **24**A is constructed of a waterproof or water resistant material or membrane, such as rubber, Gore-Tex, etc. In another embodiment, the bottom layer **24**B may be constructed of a breathable material, including but not limited to synthetic mesh fabrics. The bottom layer **24**B may also be constructed out of a water proof or water repellant material, or the like.

As constructed, the crown **22** and the brim **24** form a hat body that defines an open ended, inner cavity **34** for receiving the user's head. An optional strap **26** (See FIG. **7**) extends beneath the hat **20** from either the crown **24** or the brim **26** for retaining the hat on the user's head. The strap **26** may be any presently known or future developed strap capable of retaining the hat **20** on the user's head.

Referring now to FIGS. **2-4**A, one representative embodiment of a first ventilating system of the hat **20** will now be described in more detail. Generally described, the first ventilation system is configured and arranged to allow air to circulate between the inner cavity **34** and the exterior of the hat **20**, thereby providing a cooling effect to the user. As best shown in the embodiment of FIGS. **2-4**A, the lower crown portion **32** comprises an inner band **38** and an outer band **40**. The inner band **38** includes an upwardly extended sidewall **44** that defines the perimeter of the opening to the inner cavity **34**. The sidewall **44** includes a plurality of apertures **48** spaced apart as the inner band **38** extends about the inner cavity. The apertures **48** are somewhat oversized to allow large quantities of air to transfer through the inner band side

wall **44**. In an alternative embodiment, the inner band **38** may include or be constructed out of mesh or the apertures can be filled with mesh or other material that provides air flow through the inner band **38**. In other embodiments, the inner band **38** can extend to the top of the hat **20** as side wall **44**B, and can include one or more sections of mesh or other permeable material as it extends from the brim to the upper crown, as best shown in FIG. **12**.

In use, one embodiment of the inner band **38** is positioned in relation to the remaining portions of the hat **20** so as to be in intermittent contact with the user's head. In some embodiments, it may be desired to reduce the side wall contact area as much as possible in order to reduce the heat effects on the user's head.

The outer band **40** is spaced outwardly from and encircles the inner band **38**. The outer band **40** comprises a sidewall **52** that extends upwardly from the top layer **24**A of brim **24**, and a rim **54** that extends inwardly from the upper edge of the sidewall **52** to the inner band **38**. In the embodiment shown, the sidewall **52** extends approximately vertically from the top layer and is somewhat planar in shape, although other orientations, such as transverse, or shapes, such as arcuate, may be employed. In one embodiment, the rim **54** is secured to the top portion or edge of the inner band **38** via stitching, adhesive, or other known fastening techniques. In other embodiments, the rim **54** can extend upwardly at an angle to the sidewall **52** as it extends to meet to inner band. In the embodiment shown, an inner lip **56** or the like is used for aiding in the securement of the rim **54** to the inner band **38**. The outer band **40** is preferably solid along its sidewall **52** and is formed with spaced apart apertures or slots **58** in the rim **54** as the rim extends around the lower crown portion **32**. In one embodiment, the slots **58** or apertures may be formed from a mesh fabric or other material that provides air flow through the outer band **38**. At the lower end or edge of the sidewall **52**, a portion of the brim, such as bottom layer **24**B, extends to the lower edge of the inner band **38**, as best shown in FIGS. **3** and **4**A. In one embodiment, the bottom layer **24**B of the brim **24** is secured to the lower edge of the inner band **38** via stitching, adhesive, or other known fastening techniques.

As such, the inner band **38**, the outer band **40**, and the inner portion of the brim **24** define a ventilation chamber **60** (See FIG. **4**A) disposed in fluid communication with the apertures **48** of the inner band **38** and the slots **58** of the rim **54** for allowing air to pass between the inner cavity **34**, the ventilation chamber **60**, and the exterior of the hat **20**. This forms one embodiment of the first ventilation system. It will be appreciated that multiple chambers may be formed around the lower crown portion by dividing the ventilation chamber via cross members, if desired. Therefore, embodiments of the first ventilation system may include a single ventilation chamber that extends around the entire lower crown portion or portions thereof, or may include one or more ventilation chambers that extend around a portion or portions of the lower crown portion **32** of the hat **20**.

As shown in FIGS. **3**, **4**A, **4**C, and **4**D, one embodiment of the brim **24** further includes apertures or slots **62** disposed in the bottom layer **24**B of the brim **24** between the inner and outer bands **38** and **40**. In one embodiment, the apertures or slots **62** can be formed by mesh fabric or other material that provides air flow through the brim **24**. The slots **62** may be positioned so as to be in approximate vertical alignment with the apertures or slots **58** of the rim **54**. As such, the apertures or slots **62**, in conjunction with the corresponding apertures or slots **58** of the rim **54** and the apertures **48** of the inner band **38**, form another representative embodiment of the first ventilation system. While a portion of the brim **24** (shown as a portion of bottom layer **24**B) is described as extending from the lower edge of the outer band **40** to the inner band **38**, thereby delineating the lower crown portion in conjunction with the outer and inner bands, this portion of the brim for purposes of understanding one or more of the appended claims may be in some instances considered part of the lower crown portion.

In use, convection forces cause warm air to transfer from the inner cavity **34** to the ventilation chamber **60** via the apertures **48**. This air transfer warms the air in the ventilation chamber **60**, which in turn, rises and exits through the upper apertures or slots **58**. This upward movement of air pulls colder air from below the brim up through the optional apertures or slots **62** of the brim **24** and/or the space between the head of the user and the inner band **38**, thereby creating an exemplary air cooling ventilation pattern, as shown by the arrows in FIG. **4**A. It will be appreciated that conductive heat transfer may also occur between the user and portions of the hat, such as the inner band **38**. Such conductive heat transfer, in turn, may transfer from the inner band **38** to the air in ventilation chamber **60**.

In one embodiment, the outer band **40** may be constructed out of suitable material so that the outer band **40** may collapse inwardly onto the inner band **38** as shown in FIGS. **4**B and **4**E. In this position, ventilation through the apertures **48** and slots **58** is blocked. In this position, ventilation may still occur as indicated by the arrows in FIG. **4**B via the opening formed between the top of the lower crown portion **32** and the bottom of upper crown portion (also referred to as a second ventilation system), as will be described in more detail below.

The lower crown portion **32** and the brim **24** may be configured and/or constructed of suitable materials to provide sufficient rigidity for forming and maintaining the one or more ventilation chambers **60**, and for providing the overall shape of the hat **20**. It will be appreciated that any known means for enhancing rigidity or reinforcing portions of the lower crown portion **32** and the brim **24** may be practiced with embodiments of the present disclosure. Additionally or alternatively, the hat **20** may include support/spacers **76** for adding rigidity to portions of the hat and/or defining the ventilation chamber(s). In one embodiment shown in FIGS. **3** and **11**, the support/spacers **76** comprise an inner leg section **80**, an outer leg section **82**, and a cross member **84** integrally connected between the lower ends of the inner and outer leg sections. The support/spacers **76** may be constructed out of any suitable lightweight and durable plastic or like material. When assembled in the hat, the support/spacers **76** may be fixed in place via stitching, adhesive, etc., whereby the inner leg section **80** supports the inner band **38**, the outer leg section **82** supports the outer band **40**, and the cross member **84** helps define the geometry of the ventilation chamber(s) **60**.

In one embodiment, an upper portion **86** of the inner leg section **80** of the support/spacers **76** may extend upwardly past the lower crown section **32** to provide support to the upper crown portion **30**. In these embodiments, the top of the upper portion **86** of inner leg sections **80** support the upper crown portion **30** while the sides of the support/spacers **76** support the sides of the upper crown portion **30**. In the embodiment shown, the inner leg sections **80** are jacketed by suitable materials, including an inner jacket portion **88** and an outer jacket portion **90**, which may be integrally formed as part of the inner band **38** and the outer band **40**, respectively. These layers may be designed to augment the support of the supports/spacers. Alternatively, these layers may

support the upper crown portion in lieu of the upper portion **86** of the support/spacers **76**. For example, in an alternative embodiment shown in FIGS. **8** and **9**, the support/spacers **76** omit the upper portion **86** and the inner band **38** extends upwardly past the top of the outer band **40** as upper inner band portion **118**. In these embodiments, the inner band **38** can be configured with sufficient rigidity for supporting the upper crown portion of the hat **20**. It will be appreciated that the support/spacers **76** can be omitted in this embodiment. As shown in FIGS. **8** and **9**, the upper inner band portion **118** may include apertures **120** to promote ventilation between the user and the environment, as will be described in more detail below.

In one embodiment, the top of the spacer jacket is secured to the top region **104** of the upper crown portion **30**. To provide additional cooling to the user, the upper portion **86** of the support/spacers **76** may be configured to support the top region of the upper crown portion **30** a spaced distance above the top of the user's head (See FIGS. **4**A and **4**B). In one embodiment, the upper portion **86** of the support/spacers **76** are formed with first and second elbows **106** and **108** (See FIG. **11**), a lower, somewhat horizontal portion **110** for providing a contact region that interfaces with the head of the user, and an upper, somewhat vertical portion **112** that supports the upper crown portion **30** a spaced distance from the top of the user's head. The support/spacers **76** may also be configured with third and fourth elbows (not shown) positioned below and outwardly of the first and second elbows in order to provide lateral space between the user's head and the support/spacer to lessen the effects of conductive heat transfer and to promote additional airflow through the hat, over the user's head, etc.

In accordance with other aspects of the present disclosure, the crown **22** may be configured to provide additional ventilation capabilities to the hat. In some embodiments, the upper crown portion can include holes, grommets, mesh, etc., along sections thereof (e.g., left and right sides of the hat). In other embodiments, the upper crown portion **30** may be a discrete component apart from the lower crown portion **32**, as best shown in FIGS. **3**, **4**A-**4**B, and **9**. When assembled, the top region **104** of the upper crown portion **30** is secured to the remainder of the hat **20**. For example, the top region **104** of the upper crown portion **30** may be either mounted onto the top portions of the jacketed support/spacers **76** or onto the top of upper inner band portion **118**, as shown, for example, in FIG. **9**. In one embodiment, the lower perimeter region **110** of the upper crown portion **30** extends downwardly along the sides, the front, and the back of the user's head and may be configured to selectively attach to the lower crown portion **32** via one or more suitable fasteners. For example, hook and loop fastener components **96** and **98** (See FIGS. **4**A and **4**B) may be employed, although other cooperatingly configured fasteners may be used, such as snaps, buttons, zippers, etc. Alternatively, other fasteners may be used that are primarily mounted to one of the two components while selectively attaching to the other of the two components, such as clips, clamps, etc. In other embodiments, the lower crown portion **32** may be held in contact or close proximity to the lower crown portion **32** with the use of, for example, pull strings, etc.

When the lower perimeter region **110** is selectively attached to the lower crown portion **32**, the lower edge thereof either overlaps or abuts the inner crown portion **32**, as shown in FIGS. **4**C and **4**D, respectively, forming first and second closed positions, thereby protecting the user from the elements. In some embodiments, to tightly surround the lower crown portion **32**, excess material on both sides of the upper crown portion may be folded over and secured to itself, as shown as reference numeral **114** in FIG. **1**, using any suitable fastening techniques, such as snaps, buttons, hoop and loop fasteners, etc.

To provide additional ventilation capabilities to the hat **20**, one or more sections of the lower perimeter region **110** may be detached, removed from close proximity, etc., from the lower crown portion **32**, and in one embodiment, be folded upwardly in an outward manner, thereby exposing the inner cavity **34** to the exterior of the hat **20**. This forms one or more ventilation positions of the upper crown portion **30** of the hat **20**. To keep these sections folded upwardly, the outside of the upper crown portion **30** and/or the lower perimeter region may include suitable fasteners, e.g., snaps, buttons, hook and loop fasteners, to selectively fasten the lower perimeter region **110** to the top region **104** of the upper crown portion **30**.

The upper crown portion **30** may include additional support structure or configured with increased rigidity, if desired, to support the upper crown portion **30** and to provide some shape thereto. For example, in one embodiment, as best shown in FIGS. **5** and **6**, one or more cross members **100** may be included. The cross members **100** may be either embedded into the upper crown portion **30** or may be affixed to the inner surface thereof. In the embodiment shown, two perpendicularly disposed cross members **100** are utilized, although additional cross members may be used. Alternatively, the upper crown portion **30** may include an internal air bladder that is selectively inflated/deflated to provide sufficient rigidity and/or provide the desired shape of the upper crown portion **30**.

In several embodiments, either through the use of the internal air bladder, the cross members **100**, and/or other rigidity enhancements to the upper crown portion **30**, the upper crown portion **30** can be configured to be in a somewhat flat configuration (See FIG. **9**) in its normal state, although other configurations of the upper crown portion are possible. In some embodiments, the cross members **100** may be constructed of suitable plastic or metallic material that is bendable, but has sufficient rigidity to return to its unbent state. To form one of the closed positions in use, the lower perimeter region **110** of the upper crown portion **30** is deflected downwardly toward the lower crown portion **32**, thereby producing bias forces therein. The lower perimeter region **110** can be selectively attached to the lower crown portion **32** via one or more suitable fasteners.

In the embodiment shown in FIGS. **4**A, **5** and **6**, a portion **96** of the fastener may be secured to the bottom surface of the upper crown portion, with the cooperating fastener portion **98** being secured to the lower crown portion **32**. To form one or more ventilation positions in use, one or more portions, for example, the front and back of the upper crown portion **30**, are detached from the lower crown portion **32**. Due to the biasing forces, for example, in the deflected cross members **100**, the front and back portions of the upper crown portion **30** return to its normal position, as best shown in FIG. **5**. In this position, the upper crown portion can protect the user from the elements while also allowing air from wind, movement of the user, etc., into the inner cavity and over the head of the user (See FIGS. **4**A and **4**B), thereby providing a cooling effect to the user.

While several ventilation features are provided by the lower crown portion and/or the upper crown portion, as shown in the examples above, it will be appreciated that air may enter and exit the hat in other areas or by other means. For example, air may enter/exit at locations around the inner band **38** at the interface between the inner band **38** and the

head of the user. Moreover, the material or fabric used to construct portions of the hat, such as the upper crown portion, lower crown portion, brim, etc., may include areas that are "breathable" or otherwise permit air flow through the material or fabric and into/out of the inner cavity **34**. In some other examples, the upper crown portion, lower crown portion, brim, etc. may include holes, grommets, etc., for permitting air flow into/out of the inner cavity **34**

As described briefly above, an optional strap **26** may be provided to help retain the hat **20** on the user's head. One suitable strap that may be practiced in accordance with aspects of the present disclosure is depicted in FIG. **7**. FIG. **7** is a bottom, rear perspective view of the hat **20** illustrating the strap **26**. In the embodiment shown in FIG. **7** (and in FIG. **3**), the strap **26** is comprised of at least one strip **120** of material, shown as back and front strips **120**A and **120**B that are anchored along the sides of the hat and extend rearwardly and downwardly from the sides of the brim **24**, thereby forming a loop having a pocket or channel (not shown) therein. The strap **26** further includes left and right strap sections **122** and **124** discrete from and movable with respect to the strips **120**A and **120**B. The left and right strap sections are likewise anchored to the sides of the hat **20** and extend along the pocket or channel of the strip **120**. The ends of the left and right strap sections **122** and **124** extend through openings **130** and **132**, respectively, in the rear of the loop. The ends of the strap sections include adjustable fastening means, such as hook and loop fasteners, buttons, snaps, etc. in order to selectively tighten the strap **26** around the back of the user's head. Alternative embodiments of the strap **26** are illustrated in FIGS. **10**A and **10**B.

FIGS. **12** and **13** illustrate another embodiment of a head covering, such as hat **220**, formed in accordance with aspects of the present disclosure. The hat **220** is substantially similar in construction and operation as the hat **20** except for the differences that will now be described in detail. As shown in FIG. **12**, the rim **54** of the outer band extends upwardly in a slanting manner as it extends inwardly to connect with the inner band **38**. The rim **54** in other embodiments may extend upwardly in a slanting manner as it extends inwardly to connect with the top of the hat or crown **22**. In either case, such configurations may help to prevent water that is shelving off of the top of the hat, from getting into the inner cavity **60**. In some embodiments, the side wall **52** is occlusive or otherwise substantially restricts airflow therethrough. In these and other embodiments, the rim **54** is constructed out of an occlusive or substantially occlusive outer section **58**A and a mesh or permeable inner section **58**B. The inner band **38** in this embodiment can extend upwardly from the inner edge of the brim **24** to the top of the crown **22** as side wall sections **44**A and **44**B. The inner band **38** can include one or more sections of mesh or permeable material, such as side wall section **44**B, although other configurations are possible to allow air flow through the rim **54**.

For example, as shown in FIG. **20**, the inner band **38** can be comprised of suitably rigid or semi-rigid frame members **38**A that are connected at their upper ends via an upper support ring **38**B and are connected at the inner surface of their lower ends via lower support ring **38**C. The frame members can be spaced apart, thereby forming apertures **48**. A second lower support ring **38**D can be provided, which is disposed outwardly of lower support ring **38**C. The second lower support ring **38**D can be connected to the outer surface of the lower ends of the frame members **38**A. As such, the apertures or slots **62** are formed between the first and second lower support rings **38**C and **38**D.

Similarly, in the embodiment shown, the side wall **52** of the outer band **40** can extend past the junction with the rim **54** and continue to extend upwardly as upper section **246** to meet with the top of the crown **22**. Some or all of the upper section may be constructed out of mesh or other permeable material in order to allow cross flow of air through the hat as shown by the arrows proximate the crown **22**. In the embodiment shown, the outer edge of the crown **22** extends radially outwardly of the outer edge of the slots or mesh **58**B to help prevent water from entering the inner cavity **60**.

The hat **220** may also include a gutter **260** or other structure mounted to or otherwise disposed on the rim **54** outwardly of the mesh or permeable inner section **58**B, as shown in FIG. **12**. The gutter **260** is configured to help further prevent water from entering the chamber **60** or other parts of the hat when, for example, the wearer were to bend over and look down (e.g. while putting on a golf course, etc.).

In accordance with another aspect of the present disclosure, the hat **220** may further include a perspiration removal system comprising a perspiration gutter **268** that emanates from the joint between the inner band **38** or wall and the lower brim **24**. The perspiration gutter **268** extends upwardly and outwardly from the inner wall to some degree but not enough to obstruct air from entering through the ventilation chamber openings **62** in the lower brim **24**. The top of the gutter **268** includes an inwardly projecting lip **270**. Thus, the gutter **268** is configured to help prevent perspiration from coming out of channel **270** if the wearer were to bend over, shake their head, etc.

The hat **220** further includes a "seal" or "skirt" element **264** on the inner band **38** or wall that shelves perspiration over into the channel **272** formed by the perspiration gutter **268** preventing it from draining down in between the inner wall and the wearer's head, and possibly preventing such perspiration from getting into the wearer's eyes. In the embodiment shown, the skirt element **264** is located above the perspiration gutter **268** and extends around the perimeter of the inner band **38** or sections thereof. Likewise, the perspiration gutter **268** extends around the outer perimeter of the inner band **38** or sections thereof. Perspiration or other moisture (e.g., rain, etc.) that is collected in the channel **270** is channeled around to, for example, the back of the hat **20**, and is collected in a conduit **280** at the rear of the hat. The conduit **280** extends outwardly from the inner band **38** to the outer edge of the brim **24** to deposit the fluid away from the wearer's head and body, as shown in the FIGS. **12** and **13**.

It will be appreciated that aspects of the present disclosure may find use in other head coverings, such as bandanas, visors, hard hats, etc. In the embodiment of FIG. **14**, there is shown one example of a perspiration removal system **420** for removing moisture from the wearer. The perspiration gutter system **320** may be suitable for use in a bandana **400**, as shown in the FIG. **14**, a visor **500** (where the brim **24** is in the form of a bill), as shown in FIG. **15**, a hat **600**, as shown in FIG. **16**, or a hard hat **700**, as shown in FIG. **17**.

As shown in FIG. **14**, the perspiration removal system **420** includes a channel **472** formed between a lower inner wall section **474**, which seats directly or indirectly against the forehead of the user U, and an outer wall section **476**. The channel **472** extends around the outer perimeter of the inner wall section **474** or sections thereof. The perspiration removal system **420** further includes a "seal" or "skirt" element **464** coupled to, integrally formed with or otherwise disposed at the upper end of the inner wall section **474**. The element **464** is a somewhat flexible member, and thus, moves between an unbiased state, as shown in solid lines in

FIG. **14**, and a biased stated when contacting the head of a user as shown in dashed lines in FIG. **14**. In use, the element **464** aims to form a seal with the forehead of the user. In use, the element **464** aims to shelve water or perspiration over into the perspiration channel **472** in order to prevent it from draining down in between the inner wall and the wearers head, and possibly, into the wearer's eyes. In the embodiment shown, the skirt element **464** extends around the perimeter of the inner wall section **474** or sections thereof.

The perspiration removal system **420** in some embodiments also includes an upper inner wall section **478** arranged and configured to seat directly or indirectly against the forehead of the user at a location above the seal element **464**. In these embodiments, seal element **464** is disposed between the lower and upper inner wall sections so that the water or perspiration that falls down the user's forehead is directed into the channel **472** by skirt element **464**. In some embodiments, the perspiration removal system **420** includes an upper gutter portion or deflector **480** configured to retard, and in some embodiments restrict or prevent, liquid from dumping out from the channel **472** if the person were to bend over. The perspiration removal system **420** may further include an aperture **482** at the top thereof.

The bandana **400** in some embodiments includes an outer layer constructed of highly wicking fabric that covers the perspiration removal system **420**. In these and other embodiments, the system **420** can be constructed of suitable fabric, plastic, or the like.

Turning now to FIGS. **18** and **19**, the perspiration removal system **420** is configured to channel perspiration or other moisture (e.g., rain, etc.) that has collected in the channel **474** to, for example, the back of the bandana **400**, where it is diverted via a diverter **490** toward the outer wall **476** and continuing exteriorly of the bandana **420**. In that regard, the diverter **490** can be formed by or coupled to the inner wall section **474** and extends outwardly to the outer wall section **474** to an opening **492**. As such, the diverter is configured to deposit the liquid away from the wearer's head.

The principles, representative embodiments, and modes of operation of the present disclosure have been described in the foregoing description. However, aspects of the present disclosure which are intended to be protected are not to be construed as limited to the particular embodiments disclosed. Further, the embodiments described herein are to be regarded as illustrative rather than restrictive. It will be appreciated that variations and changes may be made by others, and equivalents employed, without departing from the spirit of the claimed subject matter. Accordingly, it is expressly intended that all such variations, changes, and equivalents fall within the spirit and scope of the claimed subject matter.

The embodiments of the disclosure in which an exclusive property or privilege is claimed are defined as follows:

1. A head covering comprising:

a crown having an open ended cavity configured to receive a head of a user, wherein the crown includes an inner crown wall disposed adjacent to a head of a user when the head covering is worn, an outer crown wall spaced a distance outwardly from the inner crown wall, and a top section, wherein the outer crown wall includes an upwardly extending first section and a second section that extends from an upper portion of the first section to one of the top section and the inner crown wall in an upwardly sloping manner;

a ventilation system associated with the crown and configured to provide ventilation to a user of the head covering, the ventilation system comprising

at least one chamber disposed between the inner crown wall and the outer crown wall,

at least one first chamber opening disposed in the inner crown wall and connecting the at least one first chamber in fluid communication with the open ended cavity,

at least one second chamber opening disposed in the second section of the outer crown wall and connecting the at least one first chamber in fluid communication with an exterior of the head covering, and

at least one third chamber opening disposed below the at least one chamber and connected in fluid communication with the at least one first chamber.

2. The head covering of claim **1**, further including one of a brim and a bill, wherein the at least one third chamber opening is disposed in said one of the brim and the bill.

3. The head covering of claim **1**, further comprising a gutter element disposed on a substantially occluded portion of the second section of the outer crown wall and is positioned outwardly of the second chamber opening.

4. The head covering of claim **3**, wherein the top section extends outwardly of one of the gutter element and the second chamber opening, and wherein the outer crown wall includes a third section extending from the intersection of the first and second sections, the third section including at least one area of mesh and the first section being substantially occluded.

5. The head covering of claim **1**, further comprising

an outer channel wall section disposed radially outwardly of the inner crown wall and coupled thereto in order to form a channel;

a flexible seal element associated with a portion of the inner crown wall, the flexible seal having a surface capable of diverting liquid into the channel;

wherein the flexible seal element is configured to be moved between an unbiased state in which the flexible seal extends inwardly of the inner crown wall and into the open ended cavity and a biased state, in which the flexible seal element is in contact with the head of the user.

6. The head covering of claim **1**, wherein the top section extends outwardly of the second chamber opening, and wherein the outer crown wall includes a third section extending from the intersection of the first and second sections and interfacing with the top section, the third section including means for permitting air flow through the third section.

7. The head covering of claim **1**, further comprising a strap associated with the crown, the strap configured to interface with a head of a user for retaining the hat thereon.

8. The head covering of claim **1**, further comprising hat retaining means, wherein the hat retaining means is coupled to the crown of the hat and extends below the crown of the hat.

9. The head covering of claim **1**, wherein the outer crown wall is constructed from at least one material including fabric.

10. The head covering of claim **5**, further comprising a deflector extending inwardly of the outer wall section into the channel, the deflector positioned a spaced distance above a bottom the channel.

11. The head covering of claim **5**, further comprising means for directing the liquid to a location externally of the head covering.

12. A head covering, comprising:

a hat body having a brim and a crown, the crown including an inner wall and an outer wall spaced a

distance outwardly from the inner wall, wherein the brim extends around at least a portion of a lower portion of the crown;

a ventilation system associated with the crown and configured to provide ventilation to a user of the head covering, the ventilation system comprising

a first chamber disposed between the inner wall and the outer wall, at least one first chamber opening disposed in the inner wall and configured to connect the first chamber in fluid communication with an open ended cavity formed by the crown,

at least one second chamber opening disposed in the outer wall and configured to connect the first chamber in fluid communication with an exterior of the head covering, and at least one third chamber opening disposed in the brim and connected in fluid communication with the at least one first chamber; and

means for collecting moisture when the head covering is being worn.

13. The head covering of claim **12**, further comprising means for transporting the moisture to a location external the head covering.

14. The head covering of claim **12**, wherein the said means for collecting moisture includes a first channel disposed adjacent the inner wall of the crown and extending along at least a section thereof, the head covering further comprising a second channel connected in fluid communication with the first channel and extending radially outwardly from the first channel along the brim to an outward edge of the brim.

15. The head covering of claim **6**, wherein the inner crown wall is configured to permit air flow that flows through the third section, via said means for permitting air flow, into the open ended cavity.

16. The head covering of claim **7**, wherein the strap is size adjustable.

17. The head covering of claim **7**, wherein the strap includes an outer strap body having first and second ends that are anchored adjacent the inner crown wall, the outer strap body forming a channel that extends along the length of the strap, and first and second strap sections discrete from and movable with respect to the outer strap body, the first and second strap sections disposed within the channel with first ends of the first and second strap sections anchored adjacent the inner crown wall and second ends having cooperating adjustable fastening means.

18. A head covering comprising:

a crown having an open ended cavity configured to receive a head of a user, wherein the crown includes an upwardly extending inner wall section disposed adjacent to a head of a user when the head covering is worn, an upwardly extending outer wall section spaced a distance outwardly from the inner wall section, a top section disposed generally transverse to the inner wall section, and a cross member section that extends from an upper portion of the outer wall section to one of the top section and the inner wall section in an upwardly sloping manner;

a brim that extends around at least a portion of a lower portion of the crown;

a ventilation system associated with the crown and configured to provide ventilation to a user of the head covering, the ventilation system comprising

at least one chamber disposed between the inner wall section and the outer wall section,

at least one first chamber opening disposed in the inner wall section and connecting the at least one first chamber in fluid communication with the open ended cavity,

at least one second chamber opening disposed in the cross member section and connecting the at least one first chamber in fluid communication with an exterior of the head covering, and

at least one third chamber opening disposed below the at least one chamber and connected in fluid communication with the at least one first chamber.

19. The head covering of claim **9**, wherein at least one of the first section and the second section of the outer crown wall is occlusive.

20. The head covering of claim **9**, wherein a section of the inner crown wall is rigid or semi-rigid.

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